

OBSTETRIC ANAESTHESIA AND
ANALGESIA IN ENGLAND AND
WALES 1945-1975.

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2007

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THESIS ABSTRACT

This thesis addresses the history of obstetric anaesthesia and analgesia in England and Wales between 1945 and 1975. It is based on an analysis of archival material from the Ministry of Health / Department for Health and Social Security, the Central Midwives Board, the Medical Research Council, the Royal College of Obstetricians and Gynaecologists, the Obstetric Anaesthetists' Association and the National Birthday Trust Fund. Other sources used include the popular and medical press, British governmental publications, oral history interviews and a prosopography of the Obstetric Anaesthetists' Association.

In this period the management and elimination of the pain of childbirth became the subject of great interest not only for mothers and anaesthetists, but also for obstetricians, midwives, clinical scientists, healthcare administrators, politicians and the press. Broadly speaking, existing work on the history of obstetric anaesthesia and analgesia treats this subject in two contrasting ways. Practitioner-historians of anaesthesia have characterised it as one of co-operation between mothers and medical practitioners, but many historians of obstetrics and midwifery have preferred to emphasise the role of obstetric anaesthetists in medicalising and hospitalising birth.

This thesis places the development of obstetric anaesthesia and analgesia in the context of three related narratives. These narratives emerged in the first half of the twentieth century, but after 1948 operated within wider debates over the centralisation and hospitalisation of state healthcare under the NHS. First, the emergence and consolidation of anaesthesia as a hospital-based clinical speciality. Second, the demographic shift from home to hospital birth. Third, arguments over the role of midwives in birth. It uses four case-studies to explore these narratives: the Analgesia in Childbirth Bill, 1949; the development of new analgesics for use by unsupervised midwives; obstetric anaesthesia and analgesia in the governmental *Reports on Confidential Enquiries into Maternal Deaths*; and the early history of the Obstetric Anaesthetists' Association and its role in debates over epidural analgesia.

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ACKNOWLEDGEMENTS

This project has benefited enormously from the expert supervision of Dr Tilli Tansey, who has provided a finely balanced synthesis of critical analysis and space for thinking. Dr Anita Holdcroft, the second supervisor and my principal contact in the OAA, has been a constant source of encouragement, and an indispensable guide to clinicians' perspectives on this subject. I am very grateful to the Wellcome Trust Centre for the History of Medicine at University College London and the OAA for their generous joint funding of this project. I owe my involvement in this project, and its subsequent smooth running, to Alan Shiel, the Centre Administrator.

Once again, the staff and students of the Wellcome Trust Centre for the History of Medicine at UCL have made historical research both a pleasure and a challenge. I am indebted to Prof Roger Cooter, Dr Martin Edwards, Dr Lesley A Hall, Prof Anne Hardy, Dr Rhodri Hayward, Prof Chris Lawrence and Prof Vivian Nutton for comments and guidance in various forms over the last three years. Nandini Bhattacharya, Karen Buckle, Dr Stephen Casper, Candice Delisle, Theresia Hofer, Dr Khai Khuin Liew, Christos Papadopoulos, Prof Walter Robinson, Dr Leela Sami, Dr Norberto Serpente, Jane Seymour and Dr Thea Vidnes have been companions, critics and friends. Particular gratitude goes to Stephen and Jane for our conversations on British medicine, and to Walter for our days out in Salem and Boston. The Wellcome Trust Centre's administrators and IT staff have, as usual, held everything together in exemplary fashion.

Outside the Centre, Prof Iain Chalmers, Dr Jean Donnison, Dr Irvine Loudon and Prof David Williamson gave invaluable guidance in the early stages of the project. Exchanges with Dr Stephanie Snow at the Centre for the History of Science, Technology and Medicine, University of Manchester, and Prof Jacqueline H Wolf at the Department of Social Medicine, Ohio University, enlivened and sharpened my later drafts. Bonnie Evans, Dr Jette Mollerhoj, Julia Moses and Sian Pooley of the Cambridge Health and Welfare History Workshop were kind enough to allow an outsider to take part in their conversations on the history of maternal care. The OAA's history of obstetric anaesthesia sub-committee have supported and encouraged all

aspects of this project, from conception to delivery. Faruq Noormohammed of the Chelsea and Westminster Hospital generously arranged provision of the personal computer on which this thesis was composed. Dr Thomas Bryson, Dr Len Carrie, Mary Cronk, Dr Andrew Doughty, Dr Sheila Duncan, Dr Derrick Holdsworth, Prof Felicity Reynolds, Prof Michael Rosen, Dr Anthony Rubin and Dr Michael Tunstall kindly took part in oral history interviews. I am particularly grateful to Dr Tunstall and his wife for putting me up for the night in Aberdeen, and for providing copies of his correspondence relating to Entonox.

Participants at the Society for the Social History of Medicine's postgraduate conference 'From the Cradle to the Grave', held at the University of Glasgow in January 2006, heard and commented on early versions of chapters 3 and 4, as did the Group of Obstetric Anaesthetists in London and the obstetric department of Queen Charlotte's Maternity Hospital, London. The staff of the Wellcome Library and Archive, University College London Library, the University of London Library, the London School of Economics Library, Cambridge University Library, Addenbrooke's Hospital Library, The National Archive and the Royal College of Obstetricians and Gynaecologists Library and Archive all provided a characteristically high standard of service and support. Dr Jean Horton, archivist of the Neurosurgical Anaesthetists' Travelling Club, generously provided copies of minutes and membership lists. Trisha Hawkins, secretary and honorary archivist of the OAA, kindly gave over her kitchen table for several afternoons of research in the OAA archive.

Finally, Dr Michael Neve has been in every sense the best man, not least in introducing me to Dr Caroline Essex. When I began this project, Caroline was a new friend. She is, as I write these words, my wife. Over three years Caroline and Michael have dealt gracefully with an entire menagerie, from archive rats to bears with sore heads. The dedication of this thesis is poor compensation, but it comes with my love and gratitude. No news.

ABBREVIATIONS IN MAIN TEXT

AAGBI	Association of Anaesthetists of Great Britain and Ireland
AIMS	Association for Improvements in the Maternity Services
BBC	British Broadcasting Corporation
BJA	British Journal of Anaesthesia
BMA	British Medical Association
BMJ	British Medical Journal
BOC	British Oxygen Company
BCOG	British College of Obstetricians and Gynaecologists
BRCS	British Red Cross Society
BPMS	British Postgraduate Medical School
BSI	British Standards Institute
CAM	Committee on analgesia in midwifery
CCHE	Central Council for Health Education
CHSC	Central Health Services Council
CMB	Central Midwives Board
CMO	Chief Medical Officer
CNOOA	Committee on nitrous oxide / oxygen analgesia
CSNSS	Committee on senior nursing staff structure
DA	Diploma in Anaesthetics
DCMMM	Departmental committee on maternal mortality and morbidity
DCTEM	Departmental committee on the training and employment of midwives
DHSS	Department of Health and Social Security
DObst	Diploma in Obstetrics
EAA	European Anaesthesiological Association
EMS	Emergency Medical Service
FARCS	Faculty of Anaesthetists of the Royal College of Surgeons
FFARCS	Fellowship of the Faculty of Anaesthetists of the Royal College of Surgeons
FRCA	Fellowship of the Royal College of Anaesthetists
GMC	General Medical Council
GNC	General Nursing Council
GP	General practitioner
GRO	General Register Office
HMC	Hospital management committee
HMSO	His / Her Majesty's Stationery Office
ICI	Imperial Chemical Industries
IJOA	International Journal of Obstetric Anesthesia

JCC	Joint consultative committee
JCM	Joint council of midwifery
LCC	London County Council
LGB	Local Government Board
LHA	Local health authority
LSA	Local supervising authority
LSHTM	London School of Hygiene and Tropical Medicine
MCW	Ministry of Health division of maternity and child welfare
MDU	Medical Defence Union
MOH	Medical officer of health
MoH	Ministry of Health
MPS	Medical Protection Society
MRC	Medical Research Council
MWA	Married Womens' Association
MWF	Medical Women's Federation
NAMCW	National Association for Maternity and Child Welfare
NATC	Neurosurgical Anaesthetists Travelling Club
NBTF	National Birthday Trust Fund
NBTS	National Blood Transfusion Service
NCA	Natural Childbirth Association
NDA	Nuffield Department of Anaesthetics
NFWI	National Federation of Women's Institutes
NHS	National Health Service
NIMR	National Institute for Medical Research
NPL	National Physical Laboratory
OAA	Obstetric Anaesthetists' Association
OMRU	Obstetric medicine research unit
OPCS	Office of Population Censuses and Surveys
PAF	Primary avoidable factor
PIC	Population investigation committee
PMO	Principal medical officer
PMS	Perinatal mortality survey
QIDN	Queen's Institute for District Nursing
RAMC	Royal Army Medical Corps
RCA	Royal College of Anaesthetists
RCGP	Royal College of General Practitioners
RCM	Royal College of Midwives
RCOG	Royal College of Obstetricians and Gynaecologists
RCP	Royal College of Physicians

RCS	Royal College of Surgeons
RHA	Regional health authority
RHB	Regional hospital board
RPMS	Royal Postgraduate Medical School
RSM	Royal Society of Medicine
SAMO	Senior area medical officer
SMA	Socialist Medical Association
SMAC	Standing medical advisory committee
SMMAC	Standing maternity and midwifery advisory committee
SMNPAC	Standing medical, nursing and pharmaceutical advisory committee
SMO	Senior medical officer
SOAP	Society of Obstetric Anaesthesiologists and Perinatologists
SC	Society of Coroners
SMOH	Society of Medical Officers of Health
SRN	State registered nurse
UCH	University College Hospital
WFSA	World Federation of Societies of Anaesthesiologists
WHO	World Health Organisation

ADDITIONAL ABBREVIATIONS IN FOOTNOTES

Papers held in The National Archive (TNA).

Central Midwives Board	TNA DV
General Register Office	TNA RG
Home Office	TNA HO
Medical Research Council	TNA FD
Ministry of Health / Department for Health and Social Security	TNA MH
Welsh Office	TNA BD

Papers held in the Wellcome Trust Library for the History and Understanding of Medicine Manuscripts and Archives Collection (WTL).

Personal papers of Dr Letitia Fairfield	WTL GC/193/
Medical Women's Federation	WTL SA/MWF/
National Birthday Trust Fund	WTL SA/NBT/
Queen's Institute for District Nursing	WTL SA/RNI/
Society of Medical Officers of Health	WTL SA/SMO/

Papers held in the Royal College of Obstetricians and Gynaecologists (RCOG) archive.

RCOG

Uncatalogued papers held in the Obstetric Anaesthetists' Association (OAA) archive.

OAA archive

Entries in the *Oxford dictionary of national biography* (online edition, 2004).

ODNB

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Chapter 1. Introduction.

In 1945, according to data collected by the Ministry of Health (MoH), approximately 50% of births in England and Wales took place in mothers' homes.¹ By 1975, this figure had fallen to less than 5%.² But more changed in this 30-year period than the location of birth. In 1945 most women in England and Wales, whether they gave birth in their home, a local council maternity home, a cottage hospital or a general hospital, were attended by a local midwife and sometimes their general practitioner (GP). By the 1970s, however, birth in England and Wales had been reconstructed as a medical procedure, one which demanded specialist hospital care.

These developments have been highly controversial, both at the time and in subsequent literature. Critiques of Western state medicine deployed in the 'birth wars' of the 1970s and 1980s have been extended into the historiography of post-war birth. Two groups of authors – historians of obstetrics and midwifery, and practitioner-historians of anaesthesia – have responded to this critique in their accounts of the history of obstetric anaesthesia and analgesia. The former have taken up the critique more or less directly, interpreting the history of birth in England and Wales in this period as a struggle between mothers and midwives seeking to preserve traditional woman-centred modes of home confinement, and a powerful (and overwhelmingly male) obstetric profession, aided in their aim of hospitalising and medicalising birth by obstetric anaesthetists. The latter, reacting to what they have perceived as an attack on their professional integrity, have responded in two ways. Some practitioner-historians of anaesthesia have focused on technical innovations in anaesthesia and analgesia, emphasising the humanitarian intentions of the clinicians involved. Others, taking a wider perspective, have construed the thirty years after the end of the Second World War as a period of co-operation between mothers, midwives, anaesthetists and obstetricians, in which hospital birth figures as a rational, evidence-based consequence of the search for safer maternity care.

¹ 'Memorandum to MoH standing advisory committee on maternity and midwifery', Feb 1951, NA MH 134/75.

² Macfarlane A, Mugford F. (2000) *Birth counts. Statistics of pregnancy and childbirth*. 2 vols. London: The Stationery Office, vol 2, pp527-528.

This thesis focuses on what has up to this point been an underused source for the history of obstetric anaesthesia and analgesia: the large, and growing, quantity of extant archival material relating to large national organisations – governmental, professional-medical and charitable – with an interest in maternity care. Using the perspective provided by a qualitative analysis of this material, it seeks to challenge both antagonistic and co-operational accounts of this subject, invoking more recent work on the origins and development of the National Health Service (NHS) and on medical specialisation. It argues that developments in obstetric anaesthesia and analgesia, and the emergence of obstetric anaesthetists as a group of clinical specialists with a distinct professional identity, in England and Wales in the thirty years after the end of the Second World War, was in three senses a result of the hospitalisation of healthcare in the same period:

- First, the hospitalisation of birth in England and Wales in this period.
- Second, the wider movement towards the centralisation and hospitalisation of state healthcare under the NHS.
- Third, the establishment of anaesthesia as a hospital-based clinical speciality and the construction of a professional identity for consultant anaesthetists, one based explicitly on hospital practice.

1.1. Literature review.

In Hardy & Tansey's phrase, the general historiography of medicine in the period after the end of the Second World War is 'patchy'.³ Berridge, too, observes that, as recently as a decade ago, '1950 was the 'end of history'... the postwar period was off limits as far as historical

³ Hardy A, Tansey EM, 'Medical enterprise and global response. Bibliographical essay', in Bynum WF et al. (2006) *The western medical tradition. 1800 to 2000*. Cambridge: Cambridge University Press, p555. For good recent surveys of medicine in Britain after the end of the Second World War, see *ibid.*, pp405-533; Berridge V. (1999) *Health and society in Britain since 1939. Prepared for the Economic History Society*. Cambridge: Cambridge University Press; the second half of Hardy A. (2000) *Health and medicine in Britain since 1860*. Basingstoke: Macmillan. On the problems of writing the history of science and medicine in this period, see Hughes J, Soderqvist T. (1999) Why is it so hard to write the history of contemporary science? *Endeavour* 23: 1-2.

synthesis was concerned'.⁴ These comments provide a fitting description of the historiography of obstetric anaesthesia and analgesia in England and Wales in this period. Though a fairly large body of literature addresses the history of obstetric anaesthesia, anaesthesia, obstetrics and midwifery before 1900, accounts of the development of these subjects in the twentieth century (and particularly in the period after the end of the Second World War) are far less numerous.⁵ Claye's *The evolution of obstetric anaesthesia* – the only extant monograph by a British author on this subject – was published in 1939.⁶ Sandelowski's *Pain, pleasure and American childbirth: from twilight sleep to the Read Method* (1984) deals, as its title implies, with obstetric anaesthesia and analgesia in the pre-Second World War American context.⁷ Caton is the only author recently to have attempted a general survey of the history of obstetric anaesthesia and analgesia in *What a blessing she had chloroform: the medical and social response to the pain of childbirth from 1800 to the present* (1999).⁸ This text, discussed below in greater detail, presents a narrative of humanitarian and clinical progress in obstetric anaesthesia, beginning with the work of James Young Simpson in the 1850s. Mander notes that this emphasis on Simpson as the 'founder' of obstetric anaesthesia appears to originate with Simpson himself.⁹ In his 1849 treatise on anaesthesia Simpson claimed that no previous attempts had been made to alleviate the pain of labour, and subsequent historians of anaesthesia have followed this position.

⁴ Berridge V. (2000) Review article. Health, medicine and social policy: the rise of the longer twentieth century? *Journal of Contemporary History* 35: 667-677, p667.

⁵ The best recent work on anaesthesia in Britain before 1900 is Snow S. (2006) *Operations without pain: the practice and science of anaesthesia in Victorian Britain*. Basingstoke: Palgrave Macmillan, esp pp113-122. Snow's introduction to this text also provides a useful review of existing literature on this subject and period. On the history and historiography of obstetrics before 1900, see the essays in Wilson PK, Dally A, King CB. (eds) (1996) *Childbirth: changing ideas and practices in Britain and America 1600 to the present*. 5 vols. New York: Garland Publications. Jacqueline Wolf has examined the role of pain perception in nineteenth-century US obstetric anaesthesia. See Wolf JH. (2002) 'Mighty glad to gasp in the gas': perceptions of pain and the timing of obstetric anaesthesia. *Health: an interdisciplinary journal for the social study of health, illness and medicine* 6: 365-387. Wolf's forthcoming *Birth pangs: a social history of obstetric anaesthesia and changing views of labor pain* will address the social history of obstetric anaesthesia in the US between the mid-nineteenth century and the present day.

⁶ Claye AM. (1939) *The evolution of obstetric analgesia*. London: Oxford University Press. On this text, see also section 2.1.4.

⁷ Sandelowski M. (1984) *Pain, pleasure and American childbirth: from twilight sleep to the Read method*. Westport, Connecticut: Greenwood Press.

⁸ Caton D. (1999) *What a blessing she had chloroform: the medical and social response to the pain of childbirth from 1800 to the present*. New Haven; London: Yale University Press.

⁹ Mander R. (1998) Analgesia and anaesthesia in childbirth: obscurantism and obfuscation. *Journal of Advanced Nursing* 28: 86-93, p87.

In wider terms, the history of obstetric anaesthesia and analgesia in England and Wales after the end of the Second World War has received serious attention in two bodies of literature: histories of anaesthesia, and histories of obstetrics and midwifery. These bodies of work share more than their subject: they are also notable for the high proportion of texts by authors who have been directly involved in the events they describe. In the former, these authors are generally anaesthetists.¹⁰ In the latter, they tend to be midwives, mothers and obstetricians.¹¹ Much ink has been spilt on the relative merits of academics, practitioners and patients as historians of medicine.¹² Jacalyn Duffin and others seek to collapse the distinction between practitioner-historians and academic historians, claiming that 'there really is no such thing [as] clinician history... history is written by individuals'.¹³ Following Duffin, this thesis does not seek to endorse or condemn an author's work solely on the basis of their professional identity, or to draw rigid distinctions between different 'types' of history. But in this instance, recognising and exploring the different perspectives of academic historians, practitioner-

¹⁰ The major secondary sources for the history of anaesthesia in Britain in the twentieth century are, almost without exception, written by current or former anaesthetists. This applies to the papers collected in the series of proceedings of the international symposia on the history of anaesthesia (first held in Rotterdam in 1982, subsequently every 4-5 years) and the journals *Bulletin of Anaesthesia History* and *History of Anaesthesia Society Proceedings*. For examples see, respectively, Hunter AR, 'History of neurosurgical anaesthesia', in Ruprecht J. (ed) (1985) *Anaesthesia: essays on its history. First international symposium on the history of modern anaesthesia, held in Rotterdam in the spring of 1982*. Berlin: Springer-Verlag pp148-154; Blas ML. (1997) The early history of epidural anaesthesia. *Bulletin of Anaesthesia History* 15: 5-6; Crocker SG. (2002) A short history of caesarean section. *History of Anaesthesia Society Proceedings* 30: 34-39. The official history of the Association of Anaesthetists of Great Britain and Ireland (AAGBI) is written by Thomas Boulton, its former president and honorary archivist. See Boulton TB. (1999) *The Association of Anaesthetists of Great Britain and Ireland 1932-1992: sixty years of progress and achievement in the context of scientific, political and social change*. London: Association of Anaesthetists of Great Britain and Ireland. The most recent text on this subject continues this trend. See Sykes K, Bunker JP. (2007) *Anaesthesia and the practice of medicine: historical perspectives*. London: RSM Press. Two notable exceptions to this trend are Jennifer Beinart's history of the Nuffield Department of Anaesthetics (NDA) at Oxford, and Christopher Lawrence's work on chloroform experimentation. See, respectively, Beinart J. (1987) *A history of the Nuffield Department of Anaesthetics, Oxford, 1937-1987*. Oxford: Oxford University Press; Lawrence CJ, 'Experiment and experience: Alfred Goodman Levy and chloroform death, 1910-1960', in Lawrence CJ. (ed) (1992) *Medical theory, surgical practice: studies in the history of surgery*. London: Routledge, pp263-294. Beinart's and Boulton's texts are discussed in greater detail in section 2.1.4.

¹¹ For examples of histories written by midwives, mothers and obstetricians, see, respectively, Worth J. (2002) *Call the midwife*. Twickenham: Merton; Sterk HM et al. (2002) *Who's having this baby: perspectives on birthing*. East Lansing: Michigan State University Press; O'Dowd MJ, Philipp EE. (1994) *The history of obstetrics and gynaecology*. New York: Parthenon.

¹² Jacalyn Duffin provides a useful review of the controversies on this subject in an American context. See Duffin J, 'A Hippocratic triangle: history, clinician-historians and future doctors', in Huisman F, Harley Warner J. (eds) (2004) *Locating medical history: the stories and their meanings*. Baltimore: Johns Hopkins University Press pp432-447. On practitioner-historians in the history of medicine, see Burnham JC. (1999) A brief history of medical practitioners and professional historians as writers of medical history. *Health and History: the bulletin of the Australian Society for the History of Medicine* 1: 250-273.

historians and patient-historians highlights a central aspect of the relationship between the recent history of obstetric anaesthesia and analgesia and its historiography.

In the thirty-year period with which this thesis is primarily concerned, a number of authors developed a radical critique of the progressivist humanitarian account of the history of medicine, a critique in which state medicine was, broadly speaking, construed as a tool of surveillance and discipline.¹⁴ Practitioners, patients, academics and others involved in disputes over the power and authority of medicine sought to engage (positively or negatively) with this new body of work. In particular, the groups opposed to increased obstetric intervention, often associated with the 'natural childbirth' movement, applied aspects of it to the hospitalisation and medicalisation of birth.¹⁵ It is worth noting, however, that this critique took many forms. In *A history of women's bodies* (1982) Edward Shorter deploys an argument based upon biological determinism, claiming that childbirth is inherently painful and dangerous, and that modern obstetric techniques provide the only means by which mothers could liberate themselves from male domination.¹⁶

¹³ Duffin in Huisman & Harley Warner (2004), p433.

¹⁴ The literature on these critiques is too large to be summarised in a single footnote. Perhaps the best single review of these critiques and their relationship to wider cultural and political contexts is Nye R. (2003) The evolution of the concept of medicalization in the late twentieth century. *Journal of the History of the Behavioural Sciences* 39: 115-129. See also Jenner MSR, Taithe BO, 'The historiographical body', in Cooter R, Pickstone J. (eds) (2003) *Companion to medicine in the twentieth century*. London: Routledge, pp187-200. On their influence in the British context, see Porter R, 'Historiography of medicine in the United Kingdom', in Huisman & Harley Warner (2004), pp194-208.

¹⁵ Perhaps the most influential example is *Our bodies ourselves*, a guide to women's health originally published in 1971 by the Boston Women's Health Book Collective. See Boston Women's Health Book Collective. (1984) *Our bodies ourselves. A health book by and for women. British edition edited by Angela Phillips and Jill Rakusen*. Harmondsworth: Penguin Books, esp chaps 12, 13, 15, 17. In the British context, Sheila Kitzinger and Wendy Savage have taken a similar approach. See, for example, Kitzinger S. (1972) *The experience of childbirth*. Revised and updated edition. London: Gollancz; Savage W. (1986) *A Savage enquiry: who controls childbirth?* London: Virago. On the British context in general, see Cartwright A. (1979) *The dignity of labour? A study of childbearing and induction. Report of a study conducted by the Institute for Social Studies in Medical Care*. London: Tavistock; Close S. (1980) *Birth report. Extracts from over 4,000 personal experiences*. Windsor: NFER; Tew M. (1987) *Safer childbirth?: a critical history of maternity care*. London: Chapman and Hall. A more recent text which revisits these debates is Campbell R, Macfarlane M. (1994) *Where to be born? The debate and the evidence*. Second edition. Oxford: National Perinatal Epidemiology Unit. See also Berridge (1999), p29; Webster C. (2002) *The National Health Service: a political history*. New edition. Oxford: Oxford University Press, p118. There is no single text survey of the 'natural childbirth' movement and its attitudes to the pain of childbirth. On 'psychoprophylaxis' and the 'Read Method' in America in the first half of the twentieth century, see Sandelowski (1984). On this subject in a more general Western context, see Porter R. (1997) *The greatest benefit to mankind: a medical history of humanity from antiquity to the present*. London: Fontana Press, pp696-699.

¹⁶ Shorter E. (1982) *A history of women's bodies*. Harmondsworth: Pelican.

In this sense, the historiography of birth in England and Wales in the thirty years after the end of the Second World War represents a continuation of these 'birth wars' by other means.¹⁷ Many recent works on the history of obstetrics and midwifery, often by authors who explicitly identify themselves as mothers or midwives, have deployed narratives of medicalisation and hospitalisation in their accounts, fusing socio-political critique and historiographical analysis.¹⁸ These texts construe the post-war hospitalisation of birth in Britain as a struggle between clearly defined and opposing 'sides' (broadly speaking, male obstetricians versus mothers and midwives) for the contested territory of mothers' bodies.¹⁹ There is, within this literature, a fairly clear consensus on the 'winners' (obstetricians) and 'losers' (mothers and midwives).²⁰

Many of these critiques have taken their cues from Oakley's foundational work on the medicalisation of birth.²¹ Oakley acknowledges that her work is 'an offshoot of the anti-authoritarian movements' of the late 1960s, and is part of a wider project of feminist scholarship

¹⁷ Several authors have identified similar relationships between medical history and medical historiography: Stephen Katz in US gerontology, Alice Domurat Dreger in the US intersex rights movement, and Bernard Harris in the post-war British welfare state. See, respectively, Katz S. (1996) *Disciplining old age: the formation of gerontological knowledge*. Charlottesville: UVA Press, chap 1, esp pp27-31; Dreger AD, 'Cultural history and social activism: scholarship, identities and the intersex rights movement', in Huisman & Harley Warner (2004), pp390-409; Harris B. (2003) *The origins of the British welfare state: social welfare in England and Wales, 1800-1945*. Basingstoke: Palgrave Macmillan, p1. See also Nye (2003).

¹⁸ See, for example, Tew (1987); Donnison J. (1988) *Midwives and medical men: a history of the struggle for the control of childbirth*. London: Historical Publications Ltd; Leap N, Hunter B. (1993) *The midwife's tale: an oral history from handywoman to professional midwife*. London: Scarlet Press; Cosslett T. (1994) *Women writing childbirth: modern discourses of motherhood*. Manchester: Manchester University Press. See also the editors' introduction to Marland H, Rafferty AM. (1997) *Midwives, society and childbirth: debates and controversies in the modern period*. London: Routledge, pp1-13. For the deployment of an economically-inflected version of this critique in an American context, see Perkins BB. (2004) *The medical delivery business: reform, childbirth and the economic order*. New Brunswick: Rutgers University Press. An example of this approach in the Australian context is Reiger KM. (2001) *Our bodies, our babies: the forgotten women's movement*. Melbourne: Melbourne University. On birth and maternity in the wider context of women's health activism in America, see Rosenbaum JAH. (2004) *Whose bodies? Whose selves? A history of American women's health activism, 1968-present*. Brown University PhD thesis. For a more nuanced and historiographically aware deployment of this critique, see Wolf (2002).

¹⁹ Oakley notes that the overwhelming majority of obstetricians working in Britain in this period were male. In 1982, for example, 80% of British obstetricians were male. See Oakley A. (1984) *The captured womb: a history of the medical care of pregnant women*. Oxford: Blackwell, p254.

²⁰ Tew and Mander give the clearest account of 'winners and losers'. See Tew (1987), preface and chap 1, esp ppvii, 8-26; Mander R. (1993) Epidural analgesia 1: recent history. *British Journal of Midwifery* 1: 259-263, pp261-2. Donnison takes a similar, though less polarised, view. See Donnison (1988), chap 10, esp pp190-195.

²¹ Oakley set out her early work on birth in Oakley A, 'Wisewoman and medicine man: changes in the management of childbirth', in Mitchell J, Oakley A. (eds) (1976) *The rights and wrongs of women*. Harmondsworth: Penguin, pp17-58. She subsequently developed the sociological aspect of her work in Oakley A. (1980) *Women confined: towards a sociology of childbirth*. Oxford: Martin Robertson, and the

that seeks to provide a body of knowledge with which to challenge the 'invisibility' of women as a socio-political group.²² But she also seeks to problematise aspects of radical feminism, arguing that 'the statement of personal experience and the glorification of sisterhood' tend to provoke a fruitless search for 'a golden age of matriarchy in the past'.²³ Oakley presents the history of birth as a struggle for the control of reproductive function. Crucially (and unlike many authors on this subject) she also provides a definition of 'control', identifying two senses in which the term is used: the 'exclusive command of relevant resources', and the legitimisation of this command by the society in which it is exercised.²⁴ This definition, encompassing as it does both the material and ideological aspects of 'control', is used throughout this thesis. She argues that the control of childbirth has passed from a 'community of untrained women' to a 'profession of formally trained men', and that as a result of this shift pregnancy has been reframed as 'a distinct type of social behaviour falling under the jurisdiction of the medical profession'.²⁵

Beginning with the appearance of man-midwives in the eighteenth century, Oakley claims that the medical profession has sought to legitimise its claim to authority over birth by reframing in scientific terms traditional male views of reproduction and birth as polluting and impure. In *The captured womb* (1984) she uses the hospitalisation of birth in the twentieth century as an example of this process in action. It began, she argues, with expressions of medical concern over high maternal mortality rates at the end of the First World War. This initiated a movement to medicalise birth, initially through antenatal care and maternal education. By presenting mothers as ignorant and pregnancy as pathological, obstetricians were then able to argue that the hospital was the appropriate location for an event which they had reconstructed as complicated and dangerous. This movement snowballed after the end of the Second World War, as the British government adopted the hospitalisation of birth as its public

historical aspect in Oakley (1984). She concludes this latter text with an account of the anti-hospitalisation movement of the 1960s and 1970s from which her work emerged.

²² Oakley in Mitchell & Oakley (1976), p7.

²³ Ibid., p11.

²⁴ Ibid., p18.

²⁵ Oakley (1984), p4.

policy, and obstetricians presented a series of new clinical techniques – amniocentesis, obstetric ultrasound, induction – as both essential for safe birth and available only in hospitals.

There are – as Oakley acknowledges – several problems with this approach. Though she seeks to liberate mothers from a largely male obstetric profession, it remains the case that (in her words) ‘women and patients are not the social groups most likely to leave a record of their views and experiences’, and so her narrative can give only a limited voice to those it aims to emancipate.²⁶ She is therefore able to provide little insight into women’s changing attitudes towards hospital birth, and the views of the small but significant minority of female obstetricians in this period.²⁷ But Oakley’s work – and particularly her claim that reductions in maternal mortality in the first half of the twentieth century were due not to improved obstetric practice but to general improvements in living standards amongst working-class mothers – has been highly influential.

One of the most radical critiques of the hospitalisation of birth – Tew’s *Safer childbirth? A critical history of maternity care* (1987) – develops Oakley’s observations on maternal mortality. Tew argues that the reduction in maternal and infant death rates in England and Wales after the end of the Second World War was a consequence of several generations of improved maternal nutrition. In her view, the hospitalisation of birth was an act of coercion by the obstetric profession, achieved by subjecting mothers to near-compulsory technical and clinical surveillance. In gaining dominance over birth, obstetricians ‘destroyed the confidence of mothers in their own reproductive efficiency and destroyed the confidence of ... midwives and general practitioners who believed in restraint’.²⁸ And obstetricians, Tew claims, acted with the

²⁶ Ibid., p6.

²⁷ Historical literature on women in medicine tends to focus on the ‘pioneers’ of the nineteenth century, with comparatively little attention paid to continuing debates over woman doctors in the twentieth century. The most widely cited text on this subject – Blake C. (1989) *The charge of the parasols: women’s entry to the medical profession*. London: Women’s Press – does not go beyond the late nineteenth century. On medical women in the twentieth century, see Dyhouse C. (1998) Driving ambitions: women in pursuit of a medical education, 1890-1939. *Women’s History Review* 7: 321-341; Mohr PD. (1995) *Women-run hospitals in Britain: a historical survey focusing on Dr Catherine Chisholm (1878-1952) and The Manchester Babies’ Hospital (Duchess of York Hospital)*. University of Manchester PhD thesis; the essays in Hardy A, Conrad L. (eds) (2001) *Women and modern medicine*. Clio Medica 61. Amsterdam: Rodopi.

²⁸ Tew (1987), p10.

implicit consent and support of obstetric anaesthetists, who also stood to gain professionally from the hospitalisation of birth.²⁹

Tew's account of obstetric anaesthesia provides a neat summary of her wider argument. Obstetricians and anaesthetists claimed that the hospitalisation of birth was an empirical response to concerns over mothers' safety, based on statistical analyses of centrally-collected data on maternal mortality. But in Tew's view, this empirical response was a rhetorical strategy, intended to conceal their project of domination and surveillance. Tew's critique has been taken up and developed by Beinart and Mander.³⁰ Both interpret the history of obstetric anaesthesia and analgesia as part of a wider struggle between medical practitioners and mothers for control of birth. Mander focuses on the introduction of epidural analgesia in the early 1970s, arguing that this move was a crucial step in the establishment of obstetric anaesthetists as a professional group, and that it initiated the 'cascade of [medical] interventions' that she claims characterised British hospital birth in the 1970s.³¹ Beinart, meanwhile, makes the wider claim that the loss of sensation associated with obstetric anaesthesia and analgesia is the major obstacle to women regaining control of birth.³²

In addressing the history of obstetric anaesthesia and analgesia, practitioner-historians of obstetrics and anaesthesia have seen the work of Oakley, Tew, Beinart, Mander and others as an attack on their professional integrity. In his history of clinical midwifery Rhodes criticises the work of 'historians... with sociological and other biases, rather than clinical ones' whose work reveals their 'ignorance and inadequate consideration of the clinical work done by midwives and obstetricians'.³³ In their responses to this perceived challenge, practitioner-historians claim that technical expertise tempered with humanitarianism, rather than concern for professional status and control, is the fundamental characteristic of anaesthetists as a group. What Tew characterised as a rhetorical strategy is, for many of these authors, the historical truth.

²⁹ Ibid., p23.

³⁰ Beinart J, 'Obstetric analgesia and the control of childbirth in twentieth-century Britain', in Garcia J, Kilpatrick R, Richards M. (eds) (1990) *The politics of maternity care: services to childbearing women in twentieth century Britain*. Oxford: Clarendon Press, pp116-132; Mander (1993); idem. (1994) Epidural analgesia 2: research basis. *British Journal of Midwifery* 2: 12-16.

³¹ Mander (1993), p261.

³² Beinart in Garcia et al (1990), pp116-117.

This body of work is characterised by two distinct strategies. Some authors have tended to focus on particular innovations in anaesthetic and analgesic technique, and the individual practitioners responsible for these innovations.³⁴ This strategy embodies many of the characteristics traditionally identified with practitioner-historians' accounts of the history of medicine.³⁵ Authors in this genre tend to take a triumphalist view of the development of new anaesthetic and analgesic techniques (frequently along the lines of the 'conquest' of pain).³⁶ They describe equipment or techniques in narrow, antiquarian terms.³⁷ Their work commemorates 'pioneers' or 'landmarks' in the history of anaesthesia, often invoking anecdote or personal reminiscence.³⁸

The alternative strategy involves a more direct engagement with critiques of obstetrics and obstetric anaesthesia.³⁹ Authors taking this approach have sought to revise these accounts by characterising the history of obstetric anaesthesia in the twentieth century as a story of co-

³³ Rhodes P. (1995) *A short history of clinical midwifery: the development of ideas in the professional management of childbirth*. Hale: Books For Midwives Press, pvii.

³⁴ Perhaps the best example of this tendency – a short history of obstetric anaesthesia from an exclusively technical perspective – is Poppers PJ, 'The history and development of obstetric anaesthesia', in Ruprecht (1985), pp133-140.

³⁵ On the characteristics traditionally identified with practitioner-histories of medicine, see Nuland SB. (1988) Doctors and historians. *Journal of the History of Medicine* 43: 137-140; Schlich T. (1995) How gods and saints became transplant surgeons: the scientific article as a model for the writing of history. *History of Science* 33: 311-331.

³⁶ Military metaphors – a conquest of, or battle with, or triumph over, pain – are a common trope in practitioner-histories of anaesthesia. See, for example, Bankoff G. (1945) *The conquest of pain: the story of anaesthesia*. London: Macdonald; Raper HR. (1945) *Man against pain: the epic of anaesthesia*. London: Victor Gollancz Ltd; Robinson V. (1947) *Victory over pain: a history of anaesthesia*. London: Sigma; Woolmer R. (1961) *The conquest of pain*. London: Scientific Book Club; Fairley P. (1978) *The conquest of pain*. London: Joseph; Gibson HB. (1982) *Pain and its conquest*. London: P Owen; Dormandy T. (2006) *The worst of evils: the fight against pain*. New Haven: Yale University Press.

³⁷ See, for example, Bryn Thomas K. (1975) *The development of anaesthetic apparatus: a history based on the Charles King Collection of the Association of Anaesthetists of Great Britain and Ireland*. Oxford: Blackwell.

³⁸ For examples of these genres see, respectively, Martini JA, Bacon DR, Vasdev GM. (2002) Edward Tuohy: the man, his needle and its place in obstetric anaesthesia. *Regional Anaesthesia and Pain Medicine* 27: 520-523; O'Dowd MJ. (1997) One hundred and fifty years of anaesthesia in obstetrics: Irish connections. *Irish Journal of Medical Science* 166: 139-140; Davenport JF, 'A worm's eye view of the anaesthetics department', in Ruprecht (1985), pp357-360. On commemorative history and the history of medicine see Teigen PM. (1996) An apology for commemorative history: an essay review. *Journal of the History of Medicine and Allied Sciences* 51: 79-85. For a wider perspective on commemorative practices in the history of science see the essays collected in Abir-Am PG, Elliott CA. (eds) (1999) *Commemorative practices in science: historical perspectives on the politics of collective memory*. Ithaca, NY: Dept. of Science and Technology Studies, Cornell University.

³⁹ The best recent examples of this strategy are Caton (1999); Boulton (1999); Dormandy (2006).

operation between mothers, anaesthetists, obstetricians and midwives.⁴⁰ This second strategy is widely shared by obstetricians writing histories of their speciality in the period after the end of the Second World War. Practitioner-historians of both specialities see the hospitalisation of birth as an act of progressive medical humanitarianism, bringing mothers under the benign and expert gaze of consultants. It was, they argue, based on a rigorous analysis of comprehensive data on maternal mortality; it was achieved with the free consent of mothers; and it generated measurable material improvement for mothers, babies, midwives, obstetricians and anaesthetists. This view of developments in maternal care as an empirical response to objective statistical data is a central theme in practitioner-histories of obstetric anaesthesia and analgesia, and will be considered in more detail in chapters 5 and 6.

Rhodes, who tellingly describes his work as a history of the 'professional management' of childbirth, presents the history of obstetrics and midwifery as the development of solutions to a series of clearly defined medical problems – eclampsia, haemorrhage, infection and so on.⁴¹ He argues that technical developments in the field after 1950 (and in particular the involvement of consultant anaesthetists in obstetric practice) were a humanitarian response by the medical profession to the high maternal mortality rates revealed by the *Reports on Confidential Enquiries into Maternal Deaths*. Caton, too, claims that the emergence of obstetric anaesthesia as a hospital-based, consultant-led speciality represents a synthesis of anaesthetists discovering 'what *could* be done' and mothers deciding 'what *would* be done'.⁴² This approach continues to characterise accounts of the history of obstetric anaesthesia written by anaesthetists. Bhadresha & Enever, writing in 2004, claim that 'obstetric anaesthesia has developed as a sub-speciality in its own right from the recognition of the distinct needs of the mother to be'.⁴³

The evidence presented in this thesis suggests that neither the antagonistic accounts in many histories of obstetrics and midwifery, nor the cooperational narratives put forward by practitioner-historians of anaesthesia, provide a satisfactory explanatory framework for the

⁴⁰ See, for example, Doughty A, 'Landmarks in the development of regional analgesia in obstetrics', in Morgan B. (ed) (1987) *Foundations of obstetric anaesthesia*. London: Farrand Press, pp1-18.

⁴¹ Rhodes (1995).

⁴² Caton (1999), pxi.

⁴³ Bhadresha S, Enever G. (2004) A potted history of obstetric anaesthesia. *Continuing Professional Development in Anaesthesia* 6: 36-40, p36.

development of obstetric anaesthesia and analgesia in England and Wales after the end of the Second World War. In both cases, authors on this subject take an overtly partisan view of birth hospitalisation, seeking either to defend it or to critique it. While both groups have identified themselves as representing mothers' best interests, neither explores the changing popular attitudes towards birth hospitalisation after the end of the Second World War or the views of women medical practitioners working in the maternity services.

By seeking to minimise the impression of controversy over the hospitalisation of birth, and by focusing on the humanitarianism of individual practitioners and the safety of hospital birth, practitioner-historians of anaesthesia ignore the wider social, political, economic and administrative contexts in which obstetric anaesthesia (and, more generally, anaesthesia) emerged as a body of clinical and professional knowledge and practices and as a professional identity. In particular, historians of anaesthesia do not engage with the historiographies of the NHS or medical specialisation (discussed below). Their tightly-focused studies of anaesthesia and anaesthetists disguise the fact that, in the period of this study, the majority of women received pain relief in childbirth from midwives, obstetricians or GPs.

Historians of obstetrics and midwifery engage more fruitfully with wider themes in the history of medicine after the end of the Second World War. But their emphasis on the role of the obstetric profession and obstetric anaesthetists in the hospitalisation of birth militates against the elaboration of a more usefully contextualised account, in which this shift is related to general trends towards the centralisation and hospitalisation of medical care. By constructing their 'defeat' as the result of a monolithic and overpowering conspiracy of central government and powerful medical interests, historians of midwifery merely extend older critiques of obstetrics as a brutal and technologically-obsessed male penetration of a female sphere of power and expertise. This results in a construction of 'professional status' and 'power' (often vaguely defined categories) as the only forces driving developments in medicine. It also sits rather uneasily with their Foucauldian readings of the 'disciplining' of birth, recalling what Jenner & Taihe identify as the 'almost masochistic sense of human powerlessness' which characterises

much recent work on gender and sexuality.⁴⁴ The hospitalisation of birth in England and Wales in the thirty years after the end of the Second World War was a complex and multi-dimensional process, driven by a range of forces. These included governmental and voluntary organisations, the press and (at times) the individual and collective agency of mothers themselves. Medicalised birth, and hospital birth in particular, was not simply imposed upon women by men.

This thesis moves away from the concerns and attitudes expressed in existing work on the history of obstetric anaesthesia and analgesia. It aims to provide a national and governmental context for developments in obstetric anaesthesia and analgesia in England and Wales in the thirty years after the end of the Second World War, a context which speaks not only to the interrelated roles of midwives, obstetricians and anaesthetists but to the activities of many other individuals and organisations, and the professional, governmental and medical structures within which their activities took place.

Sources for this study have been selected specifically with the aim of integrating existing histories of obstetric anaesthesia and of obstetrics and midwifery with wider debates over state medicine and birth in England and Wales in this period. The archives of large, national organisations provide a peerless opportunity to draw out and develop the centralised perspective missing from existing accounts of this subject. Through qualitative and quantitative analysis, these sources are used to trace the changing relationships between medical bodies and statutory organisations at a national level, and the role of these relationships in the construction of medical and governmental attitudes towards obstetric anaesthesia, obstetrics and midwifery. They reveal, in Berridge's words, not only 'the changing balances of power within the medical profession, but also between the profession, the state and its agents'.⁴⁵ They trace the emergence of new medical organisations, and subsequent shifts in the nature and scope of professional identity and clinical authority. They cast new light on the individuals, structures and processes involved in collecting, analysing and interpreting national data on maternal mortality. They also highlight the role of campaign groups, charities and the media in influencing public, official and medical attitudes towards obstetric anaesthesia and analgesia (and, indeed, towards maternal

⁴⁴ Jenner & Taithe in Cooter & Pickstone (2003), p193.

⁴⁵ Berridge (1999), p1.

care and welfare in general). The national scope of these sources also provides an opportunity to invoke two large and influential bodies of literature relating to the history of medicine in Britain after the end of the Second World War: the historiography of the NHS, and the historiography of medical specialisation.

A profusion of historical work on the NHS has appeared in the last two decades.⁴⁶ Perhaps the most widely discussed texts on this subject are Webster's two-volume official history and shorter 'political history' of the NHS.⁴⁷ Webster's judgmental approach, particularly in his accounts of the Thatcher and Blair administrations, and his (forgive the pun) 'Tory' view of the history of the NHS as a gradual decline from the socialistic ideals expressed at its foundation, has drawn critical comment.⁴⁸ His work has also reignited older debates over the role of political, medical and national consensus in the establishment of the NHS.⁴⁹ In Webster's view, the history of the NHS between the mid-1940s and the mid-1970s falls into two broad phases. He characterises the period during and immediately after the foundation of the NHS as one of 'creation and consolidation', in which a general political consensus on the need for state intervention in the provision of healthcare was tempered by bitter disagreement over the appropriate structure and role of such intervention.⁵⁰

But consistent public support for the NHS ensured that successive administrations adhered to a Bevanite model, consolidating the role of the state in the provision of medical care. From the mid-1960s, however, governments began to acknowledge the extent of financial and structural defects in the NHS, inaugurating a period of 'planning and reorganisation' (made more urgent

⁴⁶ The best recent survey of this literature is the first chapter of Berridge (1999).

⁴⁷ Respectively, Webster C. (1988) *The health services since the war*. Vol 1. *Problems of health care: the National Health Service before 1957*. London: HMSO; idem. (1996) *The health services since the war*. Vol 2. *Government and health care: the British National Health Service 1958-1979*. London: The Stationery Office; idem. (2002).

⁴⁸ See, respectively, Webster (2002), chap 3, pp140-207; chap 4, pp208-252. Martin Powell provides a short but useful summary of critical views on Webster. See Powell M. (2003) Review. Charles Webster, 'The National Health Service. A political history'. *Social History of Medicine* 16: 162-163.

⁴⁹ For a 'pre-Webster' view of the role of consensus in the establishment of the NHS, see Fox DM, 'The National Health Service and the Second World War: the elaboration of consensus', in Smith HL. (ed) (1986) *War and social change: British society in the Second World War*. Manchester: Manchester University Press pp32-57. On 'post-Webster' debates on this subject, see Berridge (1999), chap 2, esp pp11-13.

⁵⁰ Webster (2002), chap 1, esp pp38-46.

by the oil crisis of the early 1970s) that moved the NHS away from its Bevanite roots.⁵¹ Throughout both phases, Webster observes, successive administrations continued to emphasise the centralisation and hospitalisation of NHS services. As Berridge has pointed out, this provides a crucial context for considering both the hospitalisation of birth and the development of obstetric anaesthetic and analgesic services.⁵² Subsequent chapters develop Webster's and Berridge's observations on this subject by linking developments in obstetric anaesthesia and analgesia with wider trends towards hospitalisation and centralisation within the NHS in this period.

The historiography of medical specialisation is relevant to this project in two ways. First, in tracing the emergence of anaesthetics as a clinical speciality in Britain in the early to mid twentieth century. Second, in exploring the idea that obstetric anaesthesia represents a recognisable and distinct 'sub-speciality' within the wider speciality of anaesthesia. Following Rosen's foundational example, older works on this subject tend to focus on a single explanatory framework (economic, for example, or military) for medical specialisation.⁵³ More recent authors on this subject, such as Cooter and Weisz, problematise this methodology, taking instead a contextual approach that emphasises the plurality of factors involved in the emergence of specialities and specialists.⁵⁴ In his study of specialisation in British medicine in the twentieth century, Weisz cites three major factors in the emergence of medical specialities. First, international emphasis on the relationship between specialisation and scientific research. Second, 'growing governmental involvement in healthcare', which encouraged 'division into manageable categories'. Third, a 'thirst for professional unity' amongst doctors which,

⁵¹ Ibid., chap 2, esp pp87-107.

⁵² Berridge (1999), p29.

⁵³ Rosen used economic factors to account for the emergence of ophthalmology as a medical speciality. See Rosen G. (1944) *The specialization of medicine with particular reference to ophthalmology*. New York: Froben Press. Two useful reviews of the recent literature on specialisation are Dwyer E. (2000) Towards new narratives of twentieth-century medicine. *Bulletin of the History of Medicine* 74: 786-793; Weisz G. (2006) *Divide and conquer: a comparative history of medical specialization*. Oxford: Oxford University Press, ppxi-xxx. Andrew Abbott has written on the history of 'labour division' in a professional (but non-medical) context. See Abbott A. (1988) *The system of professions: an essay on the division of expert labour*. Chicago: University of Chicago Press.

⁵⁴ Cooter R. (1993) *Surgery and society in peace and war: orthopaedics and the organisation of modern medicine, 1880-1948*. Basingstoke: Macmillan; Weisz (2006).

paradoxically, eased the passage of the compromises necessary to establish such divisions.⁵⁵ As Weisz observes, anaesthesia was in some ways an atypical medical speciality: its practitioners provided a professional service to other consultants, principally surgeons, rather than being directly responsible for the treatment of patients under their care.

Existing secondary sources reveal an apparent trajectory of specialisation within British anaesthesia in the first half of the twentieth century.⁵⁶ This process is a central context for parallel developments in obstetric anaesthesia and analgesia. Several practitioner-historians of this subject have identified obstetric anaesthesia as a discrete and stable 'sub-speciality' within the wider professional space of anaesthetics.⁵⁷ Authors on medical specialisation focus on the emergence of specialities within medicine as a whole, and pay little attention to subsequent subdivision within these specialities.⁵⁸ The wider history of sub-specialisation within anaesthesia is beyond the scope of this project. Following Weisz, however, it is possible to ask whether a contextualised history of obstetric anaesthesia and analgesia can account for the emergence of obstetric anaesthesia as a sub-speciality; whether such a sub-speciality is distinct from the wider speciality of anaesthesia, in terms of its aims, members or practices; and what events frame its emergence. These questions are addressed in chapter 6.

This review must also mention a single text that does not fit into any of the preceding genres: Susan Williams' *Women & childbirth in the twentieth century: a history of the National Birthday Trust Fund 1928-93* (1997). This commissioned text is the only major work on the NBTF, a charitable trust established in 1928 to campaign for improvements in maternity care in Britain. Subsequent authors have followed her institutionally-framed approach to NBTF

⁵⁵ Weisz (2006), pp36-37.

⁵⁶ On the foundation and early history of the RSM section of anaesthetics, see Hunting P. (1992) *The history of the Royal Society of Medicine*. London: RSM Press, pp301-309. On the BMA section of anaesthetics, see Boulton (1999), pp1-4. Neither Ernest Muirhead Little's centenary history of the BMA nor Peter Bartrip's more recent account mention the section of anaesthetics. See, respectively, Little EM. (1932) *History of the British Medical Association 1832-1932*. London: BMA; Bartrip P. (1996) *Themselves writ large: the British Medical Association 1832-1966*. London: British Medical Journal. On the early history of the AAGBI, see Boulton (1999), chaps 1-2. On the foundation and early history of the FARCS, see *ibid.*, chap 5, esp pp98-100.

⁵⁷ See, for example, Bhadresha and Enever (2004), p36.

⁵⁸ Weisz, for example, acknowledges that his work focuses on 'the broader history of specialisation' rather than on developments within particular specialities. See Weisz (2006), pxviii.

activities in this period.⁵⁹ Though she engages with a wider range of social and political contexts, Williams' account shares with the work of practitioner-historians of anaesthesia an emphasis on individual humanitarianism as the major explanatory context for the work of the NBTF. In taking this perspective she focuses on the events and activities that NBTF members came to see as humanitarian successes. At several points in this thesis, particularly in chapter 3, Williams' accounts of NBTF involvement in these events are integrated with material from other archival sources, with the aim of reframing these events in terms of the three narratives identified in this thesis.

Williams' text highlights one further subject this review must address: the particular challenges associated with commissioned history. This has been one of the most vigorously controversial aspects of medical historiography in the last two decades. Much recent work on the history of science and medicine, including several of the major secondary sources used in this thesis, has been produced under commission.⁶⁰ Debates over commissioned history have crystallised around David Cantor's critique, first published in 1992, of Joan Austoker's history of the Imperial Cancer Research Fund.⁶¹

Cantor argues that the power relationships inherent in commissions can lead historians of science and medicine into writing accounts that satisfy, comfort and promote the interests of their sponsors, at the expense of intellectual independence and historiographical rigour. He identifies several characteristics which, he claims, characterise much commissioned history. First, deference in their treatment of their subjects. Second, a 'naïve progressivism', based on their subjects' concepts of scientific truth and objectivity, which disregards historiographical

⁵⁹ Williams AS. (1997) *Women & childbirth in the twentieth century: a history of the National Birthday Trust Fund 1928-93*. Stroud: Sutton Publishing. For examples of Williams' subsequent influence on accounts of the NBTF, see Caton (1999), pp159-171; Marland H, 'Childbirth and maternity', in Cooter & Pickstone (2003), pp559-574.

⁶⁰ See Williams (1997) on the NBTF; Bartrip (1996) on the BMA; Beinart (1987) on the NDA; and Webster (1988), (1996) and (2002) on the NHS. Ornella Moscucci's commissioned history of the RCOG up to 1989 has never been published, and the only extant typescript copy is held in the RCOG archive (RCOG A/8/10/4).

⁶¹ Cantor D. (1992) Contracting cancer?: the politics of commissioned histories. *Social History of Medicine* 5: 131-142. This article is reprinted in Cantor D, 'The politics of commissioned histories (revisited)', in Doel RE, Soderqvist T. (eds) (2006) *The historiography of contemporary science, technology and medicine: writing recent science*. Routledge studies in the history of science, technology and medicine 23. London: Routledge, pp45-66. For the subject of Cantor's critique, see Austoker J. (1988) *A history of the Imperial Cancer Research Fund, 1902-1986*. Oxford: Oxford University Press.

critiques of these concepts.⁶² Third, the presentation of power relationships and decisions not as context-dependent and historically contingent but as politically neutral and purely rational in nature. Fourth, the legitimization of their sponsor's existence and activities, and discounting relevant social, economic and political contexts. Finally, and most insidiously, a blurring of the distinction between the author's narrative and that of their sponsor, enabling the sponsor's own ideological position to be incorporated silently into what is presented as an interpretatively neutral historical account.

As Cantor points out, the particular problems associated with commissioned history (as opposed to those associated with any form of historical work) can be overstated. All academic and popular history is subject to substantive, methodological and stylistic expectations imposed by the financial and professional arrangements under which it is written – the research programme of a particular academic institution, for example, or the University of London's rules for doctoral theses. Moreover, the foregoing literature review demonstrates that deferential, partisan historical narratives are by no means the exclusive preserve of commissioned historians. But Cantor's critique, and in particular his call to explore and make explicit the political choices involved in commissioned history, has major implications for this project, and his criticisms must be addressed. Following his example, this thesis does so in two ways: first, by describing the circumstances in which this project has taken place; and second, by outlining the methodological precautions taken in researching and writing this thesis.

The Wellcome Trust Centre for the History of Medicine at University College London and the Obstetric Anaesthetists' Association (OAA) have provided joint funding for this project. Members of the OAA's history of obstetric anaesthesia sub-committee approached the Wellcome Trust Centre in 2003, seeking to commission a short history of the OAA from an established academic medical historian to commemorate the OAA's fortieth anniversary in 2009. Following negotiations, the OAA and the Wellcome Trust Centre agreed to joint sponsorship of a PhD studentship on the history of obstetric anaesthesia and analgesia in Britain after the end of the Second World War, jointly supervised by a member of the Wellcome Trust Centre faculty and a member of the OAA sub-committee.

⁶² Cantor (1992), p133.

Senior members of the Wellcome Trust Centre's faculty were acutely aware of the issues Cantor had raised, and took steps to safeguard the intellectual independence of the project. They ensured that funding control and approval of content and methodology remained with faculty members, and could be exercised on academic grounds only. OAA sub-committee meetings have requested and received regular progress updates, and the *International Journal of Obstetric Anaesthesia*, the OAA's in-house journal, has published two short papers based on this research.⁶³

Further methodological precautions have been taken in the course of researching and writing. These precautions have been reviewed with Wellcome Trust Centre faculty members, and have been presented and discussed at various academic historical seminars and conferences. Following Cantor, this thesis uses the active voice where possible to indicate the 'ownership' of opinions, interpretations and narratives, and takes a symmetrical approach to the production and deployment of clinical knowledge and practices. It uses material from a range of archival sources to challenge and contextualise the OAA's perspective. It analyses and deploys the limited quantity of material held in the OAA archive, and a small number of oral history interviews with OAA members, in the same way as material from other sources. The power relations, conflicts and rivalries expressed in these sources are given a central place in the narrative.

This project is not primarily a history of the OAA, and as such is only secondarily concerned with the ideology and activities of its sponsor. Its methodology is based on the assumption that the knowledge and practices associated with obstetric anaesthesia and analgesia were (and are) enmeshed in a web of social, economic and political contexts. It does not seek to portray – in the words of one anonymous oral history interviewee – 'the triumph of obstetric anaesthesia'.

⁶³ Respectively, Barnett R. (2005) A horse named 'Twilight Sleep': the language of obstetric anaesthesia in the twentieth century. *International Journal of Obstetric Anaesthesia* 14: 310-315; idem. (2006) 'The future of the midwife depends upon her power to relieve pain': the rise and fall of the Analgesia in Childbirth Bill (1949). *International Journal of Obstetric Anaesthesia* 16: 35-39.

1.2. Aims and methodology.

The major aim of this thesis is to demonstrate that developments in obstetric anaesthesia and analgesia in England and Wales in the period 1945-1975 are best understood in the wider context of the hospitalisation of healthcare in the same period. Its major proposition is:

- That the history of obstetric anaesthesia and analgesia in this period is best seen in terms of the interaction of three overlapping narratives:
 - The movement from home to hospital birth after the end of the Second World War.
 - The development of anaesthesia as a hospital-based, consultant-led clinical speciality.
 - Ongoing disputes over the professional status and role of midwives in hospitalised birth.

Subsequent chapters are based on five research aims:

- To trace the emergence of these three narratives in England and Wales in the first half of the twentieth century.
- To examine their influence on medical and political debates over the establishment and subsequent development of the NHS.
- To reconstruct the involvement of anaesthetists, obstetricians, clinical scientists and government officials in the development and approval of new analgesic techniques for use by unsupervised midwives.
- To investigate the relationship between the collection, interpretation and publication of national data on maternal mortality; anaesthetics practice; and the hospitalisation of birth.
- To explore the idea that the foundation and early history of the OAA represented the emergence of a new collective professional identity for obstetric anaesthetists, and the role of debates over epidural analgesia in the formation of this identity.

Two main methodologies are used in this project: qualitative analysis of archival sources, and prosopography. Chapter 6 discusses the methodological aspects of prosopography, and this section focuses on the use and interpretation of archival sources. As noted previously, a large quantity of material relating to this subject and period has been preserved in various archives, much of which has not previously been used for historical research. But the volume of unexamined material alone does not justify its use in this thesis. Tansey and Hughes & Soderqvist observe that the profusion of sources relating to the recent history of medicine in Britain can limit, rather than facilitate, historical investigation.⁶⁴ In this case, the value of existing archival sources is increased by a serious problem with the other major archival source for this subject: clinical records relating to obstetric and anaesthetic practice. Under the terms of the Data Protection Act, 1998, records relating to named patients (and in some cases to named practitioners) can be closed for up to 100 years.⁶⁵ This regulation seriously hinders the study of clinical practices and power relations at a local level – in a particular hospital maternity ward or anaesthetics department, for example.

The major advantage of this methodology is that it enables the historian to develop a centralised national perspective on this subject, one that, as section 1.1 shows, is largely missing from the existing literature. The use of such sources as a basis for reconstructing the worldviews or intentions of individuals is clearly problematic.⁶⁶ But the richness of these sources and the range of material they contain (personal correspondence, official minutes and publications, press cuttings, press releases, successive drafts of reports, policy documents, data returns, photographs, blueprints, employment records and so on) provides for the construction of narrative and thematic accounts of the activities of organisations and individuals, often on a

⁶⁴ Tansey EM. (1999) The dustbin of history, and why so much of modern medicine should end up there. *Lancet* 354: 1811-1812; Hughes & Soderqvist (1999), pp1-2.

⁶⁵ Section 33 of the Data Protection Act, 1998, deals with 'research, history and statistics'. The full text of the Act is available from the website of the Office of Public Sector Information (OPSI): www.opsi.gov.uk/acts/acts1998.19980029.htm, accessed 15 Jan 2007. An official guide to the implications of this legislation is available from the website of the Information Commissioner's Office (ICO): www.ico.gov.uk/what_we_cover/data_protection.aspx, accessed 15 Jan 2007.

⁶⁶ On the problem of 'empathy' in writing history from textual sources, see Jenkins K. (2003) *Re-thinking history*. New edition. Abingdon: Routledge Classics, chap 2, esp pp47-57.

day-to-day basis.⁶⁷ This qualitative multi-source approach – facilitated by online catalogues and databases of many of these sources – also creates the possibility of ‘mutual contextualisation’: for example, the use of material from the MoH and CMB archives to expand existing accounts of NBTF involvement in campaigning for obstetric analgesia, and vice versa.⁶⁸

Qualitative analysis also provides an opportunity to address a serious defect found in some recent literature on the post-war history of British medicine. Perhaps because of the profusion of source material, many authors have turned to demographic and statistical data as a way of obtaining a ‘long view’ on the period.⁶⁹ There is a tendency amongst these authors to treat numerical data as a ‘neutral’ source, free from the usual contextual and interpretative dimensions attached to more obviously ‘personal’ sources such as correspondence.⁷⁰ Archival sources can be used to place these data in the contexts of the structures, processes and individuals involved in their collection, analysis, initial presentation and subsequent use.⁷¹ This technique is particularly important in analysing the relationship between investigations of maternal mortality and the hospitalisation of birth in chapter 6.

The use of archival sources dating from this period brings certain practical and interpretative limitations. British government archives are subject to closure under the 30-year rule. This regulation applies to whole files, not to individual documents, and is judged by the most recently dated document in the file. At the time of writing, this means that files containing documents dated before March 1977 will be closed if they also contain documents dated after March 1977. A further practical problem with these sources is the identification of individuals mentioned in them. Contemporary editions of the *Medical Register* and *Medical Directory* were

⁶⁷ The use of this methodology involves reference to the activities of a large number of historical actors. Lists of Ministers of Health, Chief Medical Officers and presidents of the RCOG between 1945 and 1975 are provided in Appendix 2.

⁶⁸ On the particular issues associated with online sources, see Hessenbruch A, ‘The mutt historian: the perils and opportunities of doing history of science online’, in Doel & Soderqvist (2006), pp279-298.

⁶⁹ On the history of medical statistics and their historiographical interpretation, see Magnello E, Hardy A. (eds) (2002) *The road to medical statistics*. Amsterdam: Rodopi; Godin B. (2004) *Measurement and statistics in science and technology, 1930 to the present*. Routledge studies in the history of science, technology and medicine 22. London: Routledge.

⁷⁰ Two examples of this tendency in the historiography of post-war British medicine are Berridge (1999), pp6-9; Loudon I. (1991) On maternal and infant mortality 1900-1960. *Social History of Medicine* 4: 29-73.

⁷¹ On this point, see also section 2.1.2.

useful in identifying members of the medical profession, but for many civil service employees it has proved impossible to determine anything more than their job title, gender and surname.

The archives of four major organisations have not been used in this project. The British Oxygen Company archive was not open for research. A search of the Royal College of Midwives' archive revealed no material of interest. The location and arrangement of papers relating to the Faculty of Anaesthetists of the Royal College of Surgeons are unclear following the dissolution of the Faculty and the establishment of the Royal College of Anaesthetists in 1988. Finally, much relevant material from the archive of the Association of Anaesthetists of Great Britain and Ireland is reproduced in Boulton (1999), and a search of this archive revealed no additional material of interest. This is not to say, however, that these organisations have been ignored. Relevant material relating to each of them has been preserved in the archives of other organisations, and is where possible used to explore and reconstruct their activities.

Perhaps the most serious interpretative limitations attached to these sources are the relatively small range of voices and perspectives they preserve. As Oakley points out, the history of birth is necessarily gendered, but this dimension is frequently absent from historical accounts of the subject. In her words, 'there is no study of childbirth from the woman's point of view: there are only accounts and impressions'.⁷² One might add that there are few similar studies of childbirth from the child's or female obstetrician's or midwife's point of view. This paucity of work is particularly problematic in exploring women's attitudes towards hospital birth and pain relief. A number of sources suggest that this issue was far from clearcut. For example, the Association for Improvements in the Maternity Services (AIMS), founded in 1960 to promote the benefits of hospital obstetric care, had by 1970 reversed its position and was campaigning for home birth.⁷³ In the absence of further work on this subject, however, it is difficult to make valid generalisations on the subject of women's perspectives on maternal care in this period. This absence of perspectives is not limited to the gendered dimensions of this subject: chapter 6 discusses the absence of sources relating to the effects of new anaesthetics and analgesics on fetuses and neonates.

⁷² Oakley (1984), p6.

⁷³ On the early history of AIMS, see Oakley (1984), pp239-241.

These perspectives are central to an understanding of the history of childbirth, but it remains the case that they are largely missing from the sources used in this thesis.⁷⁴ In many cases the sources are not overtly gendered: discussions of birth and maternity are carried out in the superficially 'neutral' language of economics, administration or clinical research. These limitations are not absolute: 'mutual contextualisation' can address them to a certain extent. But it must be acknowledged that these sources do not provide an adequate basis for exploring the historical gendering of obstetric anaesthesia and analgesia, and hence this thesis can engage only in a strictly limited sense with the issue of gender, and other perspectives such as those of women obstetricians and neonates.

One methodology used to address the problem of absent 'voices' in the history of science and medicine, and in the history of birth in particular, has been oral history.⁷⁵ This technique involves serious challenges. In this case, the paucity of existing historical accounts as an interpretative framework, and the absence of an obvious and well-defined candidate group for a programme of interviews, militated against the use of oral history on a large scale. A small number of interviews have been performed on an ad hoc basis, with individuals mentioned in archival material.⁷⁶ These interviews have been fully transcribed; permission to quote has been obtained from the interviewees; and at the conclusion of this project the tapes, transcripts and correspondence will be deposited in the Wellcome Library, London. Extracts from these transcripts have been used only in conjunction with supporting material from archival sources.

⁷⁴ This point is reflected in the wider historiography of anaesthesia and analgesia. Porter's call to write medical history from the patient's perspective has made little impact in this field. Mothers' testimony and views have been more widely explored in the historiography of obstetrics and midwifery. See, for example, Cosslett (1994); Marks L. (1995) 'They're magicians': midwives, doctors and hospitals in women's experiences of childbirth in east London and Woolwich in the interwar years. *Oral History* 23: 46-53; McCray Bier L. (2004) Expertise and control: childbearing in three twentieth-century working-class Lancashire communities. *Bulletin of the History of Medicine* 78: 379-409; Close (1980). Wolf uses mothers' letters and diaries to bring out the differences between women's experiences and physicians' perceptions of labour pain in the US in the nineteenth century. See Wolf (2002).

⁷⁵ On the use of oral history in the history of medicine, see Hendricks RL. (1991) Oral history as social history. *Bulletin of the History of Medicine* 65: 575-580; Thompson P. (1991) Oral history and the history of medicine: a review. *Social History of Medicine* 4: 371-383; Tomes N. (1991) Oral history in the history of medicine. *Journal of American History* 78: 607-617; Weiner C. (1988) Oral history of science: a mushrooming cloud? *Journal of American History* 75: 548-559; Hoddeson L, 'The conflict of memories and documents: dilemmas and pragmatics of oral history', in Doel & Soderqvist (2006), pp187-200. For examples of the use of oral history in the historiography of obstetrics and midwifery, see the previous footnote.

⁷⁶ The UCL research ethics committee approved and monitored this programme of interviews under project number 0289/001.

This is an appropriate point to discuss some of the constraints implied in the title of this thesis. First, the use of the terms ‘obstetric anaesthesia’ and ‘obstetric analgesia’. As Mander observes, authors on this subject tend to assume that the distinction between these terms is ‘clearly and easily apparent’ – an assumption reinforced by the concise definitions given in any modern medical dictionary.⁷⁷ She argues that this spurious precision masks the blurred and indistinct character of their usage (both historically and in current practice), and that this uncertainty has had significant consequences for the definition and control of pain relief in childbirth. Following Mander, this thesis does not impose a contemporary clinical definition on the usage of these terms: they are used in the ways that different historical actors chose to use them, and the differences between these usages are taken as a way to explore the changing meanings of ‘obstetric anaesthesia’ and ‘obstetric analgesia’ in this period. When circumstances demand an umbrella term for these practices, ‘pain relief in childbirth’ is used.

Second, the chronological and geographical focus of this thesis requires explanation. Several factors make 1945 an appropriate point at which to begin. This date represents the beginning of NBTF post-war campaigns on obstetric analgesia, following a period of quiescence during the Second World War. It also marks the first movements towards reorganisation of the governmental Confidential Enquiries into Maternal Deaths. More generally, it provides an opportunity to study official and medical views on obstetric anaesthesia and analgesia immediately before, during and after the establishment of the NHS. 1975, meanwhile, saw the publication of the seventh *Report on Confidential Enquiries into Maternal Deaths* and the dissolution of the RCOG’s ad hoc committee on the relief of pain in labour, the last of a series of official and semi-official committees on this subject. In Webster’s and Berridge’s accounts of this period, the mid-1970s mark the end of the second major phase in the history of the NHS. And, on a practical note, most of the research for this thesis was done in 2005. Under the terms of the 30-year rule, 1975 was then the official ‘closing date’ for governmental files.

⁷⁷ Mander (1998), p86. The most recent edition of the *Oxford concise medical dictionary* defines an anaesthetic as ‘an agent that reduces or abolishes sensation, affecting either the whole body (general anaesthetic) or a particular area or region (local anaesthetic)’, and an analgesic as ‘a drug that relieves pain... without loss of consciousness and without the sense of touch necessarily being affected’. See Martin EA. (ed) (2006) *Oxford concise medical dictionary*. New edition. Oxford: Oxford University Press.

Finally, the emphasis on England and Wales is not a crude attempt by an English scholar to correct the emphasis on Scottish physicians (and particularly Simpson) in the literature on obstetric anaesthesia in the nineteenth century.⁷⁸ Nor is this focus strictly exclusive. Chapter 4, for example, discusses the work of the MRC obstetric medicine research unit (OMRU) in Aberdeen. Rather, as many of the sources used in this research are governmental or government-related, it is an attempt to recognise and acknowledge the distinct (and sometimes separate) status of Scotland as a governmental and administrative unit throughout the period of this study.⁷⁹

1.3. Chapter outline.

Chapter 2 uses a combination of original archival research and existing secondary texts to show that, in England and Wales, the three main narratives which characterised the history of obstetric anaesthesia and analgesia after the end of the Second World War, along with the wider context of centralisation and hospitalisation of state healthcare, emerged and developed in the first half of the twentieth century.

Chapter 3 traces the ways in which the establishment of the NHS in 1948 affected the impact and interrelationship of these narratives. It uses a reinterpretation of the controversy surrounding the Analgesia in Childbirth Bill, 1949, to show that debates over state involvement in maternity care, the provision of obstetric analgesia and the status of midwives were quickly integrated into wider discussions over the expansion, cost and function of the NHS.

Chapter 4 investigates the series of official trials of new analgesic techniques and agents for use by unsupervised midwives in this period. It argues that technical developments in obstetric analgesia were closely related to increasing official concern over the status of midwives and their role in hospital birth, and that these official trials became a locus for anaesthetists interested in obstetric anaesthesia and analgesia.

⁷⁸ See, for example, Snow (2006), pp113-122.

⁷⁹ On some of the distinctive aspects of Scottish state healthcare in this period, see Webster (2002), pp90-93.

Chapter 5 reconstructs the origins and development of the Confidential Enquiries into Maternal Deaths, and their impact on clinical anaesthetic practice. It shows that concerns over anaesthetics-related maternal mortality were a significant influence both on the developing identity of obstetric anaesthetists and on debates over the hospitalisation of birth.

Chapter 6 examines the membership, policies and campaigns of the OAA in the six years after its foundation in 1969, with particular emphasis on debates over epidural analgesia. It argues that the establishment of the OAA was an expression of a new professional identity for obstetric anaesthetists, but that this identity found its roots in the events and themes discussed in previous chapters.

This thesis places the development of obstetric anaesthesia and analgesia in the context of three related narratives. These narratives emerged in the first half of the twentieth century, but after 1948 operated within wider debates over the expansion and role of the NHS. It uses qualitative analyses of the archives of national medical and governmental organisations to develop a centralised, national perspective absent from existing literature on this subject.

Chapter 2. Medical, political and demographic contexts for obstetric anaesthesia and analgesia in England and Wales in the twentieth century.

The major argument of this thesis is that developments in obstetric anaesthesia and analgesia in England and Wales between 1945 and 1975 are best understood in terms of three overlapping narratives: the hospitalisation of birth; the emergence of anaesthesia as a clinical speciality; and ongoing debates over the role and status of midwives. This chapter argues that these narratives emerged from developments in obstetrics, anaesthesia, midwifery and governmental health policy in the first half of the twentieth century. It traces their origins, development and (by the early 1950s) their establishment within the wider framework of the NHS. It also outlines the development of the most influential of these narratives – the hospitalisation of birth – in the period 1945-1975.

Chapter 1 noted that work on the history of obstetric anaesthesia and analgesia in the post-1900 period tends to be patchy, often based on local case studies, institutionally-focused and inward-looking, lacking a sense of the wider medical and political contexts in which to situate its subjects. This paucity of secondary literature represents a serious problem in addressing the history of obstetric anaesthesia and analgesia in England and Wales in the twentieth century. There is no existing text to which readers could be referred for a general survey of the major events and themes in the history of obstetric anaesthesia and analgesia in England and Wales between 1900 and the early 1950s.⁸⁰

The aim of this chapter is to construct just such an account, using a combination of existing secondary texts, demographic data and original archival research. This approach also provides an opportunity to introduce the historical actors, collective and individual, in the history of this

⁸⁰ Caton's history of obstetric anaesthesia focuses on the US context, and his observations on the British situation tend to reflect existing literature on this subject. His chapter on the activities of the NBTF, for example, closely follows Williams' account. See Caton (1999), chap 9, and compare with Williams (1997).

subject after the end of the Second World War, and to outline the development of their attitudes towards obstetric anaesthesia and analgesia.

2.1. Obstetrics, midwifery and anaesthesia in England and Wales c. 1900 – c. 1950.

In establishing a Central Midwives Board (CMB) for England and Wales, and by placing midwives under its direct authority and supervision, the sponsors of the Midwives Act, 1902, aimed to improve the quality of maternity services provided to the majority of women by improving the status of the domiciliary midwives who attended them. But throughout the first half of the twentieth century, concerns over a perceived decline in the status and number of domiciliary midwives in England and Wales dominated debates over the role of midwives. The CMB attempted to reverse this decline by improving the range of analgesics that domiciliary midwives could use without direct medical supervision. The NBTF, a charity which used both elite socio-political connections and the 'grass-roots' provision of apparatus and training to midwives to achieve its stated aim of raising the standard of maternal care for poorer mothers, also adopted this strategy. Both the NBTF and CMB established close links with a new national organisation for obstetricians: the British College of Obstetricians and Gynaecologists (BCOG up to 1938, thereafter RCOG).⁸¹ BCOG members advised the CMB and NBTF on the safety of new analgesic techniques for use by unsupervised domiciliary midwives.

These attempts to improve the status and numbers of domiciliary midwives met with little success, and from the early 1930s the BCOG began to challenge what it saw as inappropriate governmental support for domiciliary midwifery and home birth. It used the investigation and report of the MoH departmental committee on maternal mortality and morbidity, established in 1928 in response to official and medical concerns over the maternal death rate, to develop and promote the idea of a 'national maternity service'. This policy became a significant precedent for the relationship between investigations of maternal mortality and the movement to

⁸¹ In 1938 King George VI granted the BCOG a royal charter. Wartime delays, however, meant that the College did not formally receive its charter until 1947. Prof Norman Fletcher Shaw described this episode in his history of the RCOG. See Fletcher Shaw N. (1954) *Twenty-five years: the story of the Royal College of Obstetricians and Gynaecologists 1929-1954*. London: J&A Churchill, p123.

hospitalise birth. Under the BCOG's scheme, a high proportion of births in England and Wales would take place in hospitals under the supervision of consultant obstetricians. The provision of safe and effective obstetric anaesthesia and analgesia in this setting was, in the BCOG's view, a strong argument for the hospitalisation of birth.

In this period anaesthesia began to emerge from general medicine as a distinct clinical speciality, reflected in the foundation of the AAGBI and in new programmes of clinical research in anaesthetics. The Second World War provided a major stimulus for further specialisation in anaesthesia, both on the 'home front' in the Emergency Medical Service (EMS) and in the training and deployment of large numbers of anaesthetists for military field surgery. It was also a period of further debate over the importance of domiciliary midwifery and hospital birth, particularly after the publication of the Beveridge report in 1942. In the negotiations leading up to the foundation of the NHS in 1948, the RCOG continued to press for further hospitalisation of birth and the establishment of its national maternity service. The principle of hospitalising a proportion of births was built into the structure of the NHS at its establishment, though debates continued over the appropriate target proportion of hospital births, and the CMB and MoH continued for a time to promote home birth in parallel with hospital birth. For anaesthetists, the establishment of the NHS represented the formalisation of their status as members of a distinct clinical speciality. They gained a large number of consultant positions, equal pay and (with the creation of the FARCS in 1948) equal professional status with other hospital specialities.

This section traces the emergence of these three narratives in England and Wales between 1900 and the early 1950s, with particular emphasis on the inter-relationship of obstetric, anaesthetic and midwifery practice in the provision of pain relief to women in childbirth.

2.1.1. Obstetric analgesia and the Midwives Act, 1902.

Historians of British midwifery in the twentieth century have cited the passage of the Midwives Act, 1902, as the major step in the emergence of modern midwifery. Both Donnison and Leap & Hunter view the Act as an attempt by a coalition of radical obstetricians and women's rights campaigners to do for midwifery what Florence Nightingale had, they claimed,

done for nursing fifty years earlier: to make it a 'respectable' middle-class profession.⁸² Passed with overwhelming public support, but with great opposition from the medical profession, the Act established two central administrative bodies for the training and supervision of midwives in Britain: a CMB for England and Wales, based in London, and one for Scotland, based in Edinburgh.⁸³ It placed midwives and their practice under the direct local supervision of each county or borough medical officer of health (MOH) and a statutory local supervising authority (LSA), and under the direct central supervision of the CMBs.

Under the terms of the Act, all midwives practising in England and Wales had to be registered with the CMB, or face prosecution.⁸⁴ In this way, the Act placed the whole practice of British midwifery – both in the hospital and the home – within a statutory framework, and opened it to the scrutiny of the CMB and its advisors. A majority of the CMB's members were required by statute to be medical practitioners – generally senior consultant obstetricians working in London teaching hospitals.⁸⁵ Throughout this period, however, its chairman and secretary emphasised the position of the CMB as a purely administrative body, one whose decisions would be guided by expert medical advice from other organisations.⁸⁶

⁸² Donnison (1977), chap 8; Leap & Hunter (1993), chaps 1 & 3. On the connection between nineteenth-century nursing reform and early twentieth-century midwifery reform, see Hannan J, 'Rosalind Paget: the midwife, the women's movement and reform before 1914', in Marland & Rafferty (1997), pp81-101.

⁸³ The Scottish CMB is, for reasons outlined in the previous chapter, not discussed here. On the regulation of Scottish midwifery in the twentieth century, see Reid L. (2002) *Scottish midwives 1916-1983: the Central Midwives Board for Scotland and practising midwives*. University of Glasgow PhD thesis.

⁸⁴ The CMB's system of registration worked in two stages. When a midwife qualified, her name would be placed on the *Midwives' Roll*, a published list of all qualified midwives in England and Wales. See, for example, CMB. (1902) *The Midwives' Roll*. London: CMB. Her name would remain on the *Roll* unless she was convicted of professional misconduct, or notified the CMB of her retirement. In addition, every midwife intending to practise midwifery in England and Wales had to notify the CMB each year. Although the midwives listed in the first *Midwives' Roll* had all given notice to practice at the time of publication, subsequent editions of the *Roll* did not delete the names of midwives who had retired or died. In this way, the number of midwives on the *Roll* became less representative of the actual number of practising midwives. From the 1930s the number of midwives giving notice of their intention to practise was printed separately in the *Roll*, and in the 1960s the *Roll* was 'cleared' of redundant names. For an institutional perspective on the history of the CMB and the *Midwives' Roll*, see Hickey NM. (1983) *Evolution and devolution 1902-1983: milestones in the history of a statutory body*. London: Central Midwives Board. On the general history of midwifery training in this period, see Rhodes (1995), pp125-127.

⁸⁵ Midwives were not represented on the CMB until 1920, and even after this date only one or two senior midwives were board members at any one time. CMB membership lists were published annually in the *Midwives' Roll* and the *Midwives' handbook*. See, for example, CMB. (1948) *The midwife's handbook: incorporating rules framed by the Central Midwives Board under the Midwives Acts, 1902 to 1936*. Nineteenth edition. London: CMB.

⁸⁶ Arnold Walker, the chairman of the CMB, outlined the background to his organisation's policy on this subject in a letter to Sir John Charles, the CMO, in 1950. See Walker to Charles, 9 Jun 1950, TNA DV 6/6.

Neither Donnison nor Leap & Hunter, however, address the Act's far-reaching implications for the provision of pain relief in childbirth by midwives. Under the terms of the Act, the CMB was given the power to make any appropriate regulations on the administration by midwives of anaesthetics, analgesics and other dangerous drugs. In doing so, the Act established a crucial distinction between the practice of midwives working under the supervision of physicians (with obstetricians in hospital or GPs at home births) and that of unsupervised midwives. Midwives working under the direct supervision of a physician were, like nurses in this situation, permitted to administer any treatment prescribed by the doctor. Midwives working without direct medical supervision – the majority of midwives, and births, in England and Wales in this period – could use only drugs or techniques specifically approved by the CMB.

This meant, in effect, that these drugs and techniques had to be approved by senior British obstetricians. At the establishment of the CMB in 1902, a small number of drugs such as laudanum, then well known as a general sedative, were approved in this way. Anaesthetics, however, were strictly prohibited. Though the CMB emphasised pain relief as one of the main duties of the 'modern' midwife, it followed its advisors in regarding anaesthesia as strictly the preserve of the medical practitioner.⁸⁷ In this way the Midwives Act, 1902, created both a regulatory framework within which unsupervised domiciliary midwives could provide pain relief in childbirth to the majority of mothers in England and Wales, and a process by which expert clinical judgement could be brought to bear on new treatments and techniques as they appeared.

The CMB began to realise, however, that midwifery would not be transformed so straightforwardly into a 'respectable' profession. Apart from a small number of 'professional' midwives, working mainly in specialist London institutions such as Queen Charlotte's Maternity Hospital, domiciliary midwifery remained principally a working-class occupation.⁸⁸ Although the CMB provided a regulatory and disciplinary structure for midwifery, it did not become involved in disputes over pay. Most midwives at this time worked independently in

⁸⁷ For the first list of CMB rules relating to pain relief, see CMB. (1902) *The midwife's handbook: incorporating rules framed by the Central Midwives Board under the Midwives Act 1902*. First edition. London: CMB.

domiciliary practice, employed on a case-by-case basis by individual mothers who were often poor. Prospects of better working conditions and a regular income led many midwives to retrain as hospital nurses. The provision in 1919 of a £20 grant to trainee midwives who promised to practise for a year or more after qualification marked the start of a series of governmental attempts to maintain the number of midwives practising in England and Wales.⁸⁹ Throughout the interwar period, however, numbers continued to fall.⁹⁰ By the mid-1930s the CMB and MoH were urgently seeking ways to arrest and reverse the declining status and number of domiciliary midwives. One strategy was to improve their conditions of employment. Another was to widen the range of analgesics and other drugs that midwives could give on their own responsibility – in other words, to mothers giving birth at home.⁹¹

2.1.2. Maternal mortality, obstetric anaesthesia and a national maternity service 1919-39.

As chapter 1 noted, a central aspect of the history of obstetric anaesthesia in England and Wales in the twentieth century was its relationship – perceived or actual – with maternal mortality rates. This section explores what appears to be the earliest governmental context in which this relationship appears: the investigation and report of the DCMMM. This committee was set up in 1928 in response to growing medical and governmental concern over the rate of maternal mortality, and reflected developing interest and expertise on the subject of maternity and child welfare within the MoH itself. The period of the DCMMM's investigation, 1928-1932, coincided with the foundation of three organisations concerned with maternal welfare and pain relief in childbirth. The NBTF and BCOG were founded in 1928, and the AAGBI in 1932. Subsequent sections of this chapter consider the activities of the NBTF and AAGBI. This

⁸⁸ On the history of Queen Charlotte's Maternity Hospital, see Dewhurst J. (1969) *Queen Charlotte's: the story of a hospital*. Printed privately.

⁸⁹ Leap & Hunter (1993), p200.

⁹⁰ The CMB's first *Midwives' Roll*, published in 1902, listed over 22,000 midwives in England and Wales, but by 1936 fewer than 16,000 were giving notice to practice annually. See CMB (1902); CMB. (1936) *The Midwives' Roll*. London: CMB.

⁹¹ Though in this period the CMB put most effort into finding and testing new analgesics, they also approved other drugs for use by unsupervised midwives. The first such drug approved was ergometrine, used to induce birth and prevent post-partum haemorrhage, in 1936. On the development of ergometrine,

section focuses on the relationship between the DCMMM's reports on maternal mortality and the BCOG's policy of establishing a hospital-based national maternity service, and discusses the implications of this relationship for obstetric anaesthesia and analgesia in England and Wales.

In creating a college rather than a society or association, the BCOG's founder members (mostly consultant obstetricians in British teaching hospitals) made explicit their intention of obtaining equal status with the older RCS and Royal College of Physicians (RCP).⁹² From its establishment, the BCOG emphasised the status of obstetricians as specialist, hospital-based clinicians. Senior members of the BCOG claimed consistently that hospital birth was empirically safer than home birth, both for mothers and for babies. By creating a qualification for its members – the Diploma in Obstetrics (DObst) – shortly after its foundation, the BCOG aimed to establish a standard for obstetric practice in British hospitals.⁹³ By arguing for the establishment of a national maternity service, under which a high proportion of British births would take place in hospitals, its members sought to extend what they saw as the safe, effective care they could provide. The DCMMM's investigation brought together the obstetric profession and governmental health organisations both peripherally and centrally: peripherally, by making county MOsH and local consultant obstetricians jointly responsible for identifying and reporting individual maternal deaths; centrally, by making senior members of the BCOG and senior civil servants in the MoH jointly responsible for the DCMMM's conclusions. This established a close and enduring relationship between governmental health policy and the views and policies of the BCOG.

Indeed, the BCOG's policy of establishing a national maternity service found its first concrete expression in the DCMMM's interim report (1930). This document presented the safe and effective provision of pain relief to women in childbirth by specialist clinicians as a strong argument for hospitalising birth. In this way, the DCMMM established a connection between the hospitalisation of birth and the development of a body of clinical expertise in obstetric anaesthesia, a connection that was (as chapter 5 argues) developed and reinforced by the

see Tansey EM, 'Ergot to ergometrine: an obstetric Renaissance?', in Hardy & Conrad (2001), pp195-213.

⁹² On the foundation and early history of the BCOG, see Fletcher Shaw (1954), pp8-27. On the general history of obstetric training in this period, see Rhodes (1995), pp128-130.

Confidential Enquiries into Maternal Deaths after the end of the Second World War. Throughout the 1930s and 1940s BCOG / RCOG members advised governmental investigations and the CMB, contributed to campaigns by the NBTF and collaborated on their own series of investigations and reports promoting the hospitalisation of birth.

Any study of maternal mortality must acknowledge Irvine Loudon's pioneering work on the statistical aspects of maternal and infant mortality in the twentieth century.⁹⁴ But by treating statistical data as an interpretatively neutral source, Loudon's methodology tends to exclude two factors, both central to a historical understanding of this subject. First, the historical actors – individuals, organisations and structures – responsible for collecting and analysing these data. Second, the uses (clinical, political and administrative) to which these data were put by those who obtained it. The approach taken in this section, and in chapter 5 on the Confidential Enquiries into Maternal Deaths, is to 'decentre' the statistical results generated by the DCMMM, treating them as a historical source like any other and focusing on the three-way relationship between the historical actors involved in creating statistical information, the information itself and the uses to which it was put. In concrete terms, this will involve description and analysis of the establishment and structure of the DCMMM, the data presented in its two reports, and the ways in which groups and individuals interpreted these data.

At the foundation of the MoH in 1919 Dr Christopher Addison, the first Minister of Health, established a division of maternity and child welfare (MCW) as part of its internal administrative structure.⁹⁵ Dr Janet Campbell, a civil service medical officer who had previously

⁹³ On the origins of the DObst, see Fletcher Shaw (1954) pp79-90.

⁹⁴ His key work on this subject is Loudon I. (1992) *Death in childbirth. An international study of maternal care and maternal mortality 1800-1950*. Oxford: Clarendon Press. See also idem. (1991); idem. (1999) The measurement of maternal mortality. *Journal of the History of Medicine and Allied Sciences* 54: 312-329.

⁹⁵ For an organisation so deeply involved with twentieth-century British medicine, the origins and early history of the MoH has been overlooked by historians of medicine. Honigsbaum's account of the foundation of the MoH is now rather dated. See Honigsbaum F. (1970) *The struggle for the Ministry of Health*. London: Social Administration Research Trust; idem., 'Christopher Addison: a realist in pursuit of dreams', in Porter D, Porter R. (eds) (1993) *Doctors, politics and society: historical essays*. Clio Medica 23. Amsterdam: Rodopi, pp229-246. Harris' history of British social welfare touches on the history of the MoH. See Harris (2003). Eyler's biography of Sir Arthur Newsholme outlines Newsholme's work with the early MoH. See Eyler JM. (1997) *Sir Arthur Newsholme and state medicine, 1885-1935*. Cambridge: Cambridge University Press. On Addison, see Morgan KO, 'Addison, Christopher, first Viscount Addison (1869-1951)', *ODNB*.

worked at the Board of Education, was MCW's first senior medical officer (SMO).⁹⁶ Her work on the Notification of Births Act, 1915, the Maternity and Child Welfare Act, 1918, and the Carnegie Trust's *Report on the physical welfare of mothers and children* (1917) had led Campbell to focus on maternal mortality rates as an indicator of national health.⁹⁷ With the support of Addison and the first Chief Medical Officer (CMO), Sir George Newman, Campbell pursued a policy of appointing women to senior posts in MCW.⁹⁸ In her first decade as SMO Campbell wrote four reports relating to maternal care, and a series of memoranda to local MOsH.⁹⁹ She identified the wider provision of antenatal care and social services as the most effective way to reduce maternal mortality.¹⁰⁰ In *The training of midwives* (1923) she argued that giving midwives a reliable method of relieving the pain of childbirth would improve mothers' confidence in the domiciliary midwifery service, and hence improve the recruitment of midwives.

MCW's activities in this period reflected long-standing concerns within the medical profession and voluntary organisations over maternal and infant welfare. During the First World War, some mothers' groups and members of the medical profession cited the low national birth rate and high national maternal death rate as evidence of British national deterioration.¹⁰¹ In his

⁹⁶ On Campbell, see Hogarth M, 'Campbell, Dame Janet Mary (1877-1954)', *ODNB*. Full references to *ODNB* entries are given in the bibliography.

⁹⁷ Campbell wrote the third volume of the Carnegie Trust report. See Campbell JM. (1917) *Report on the physical welfare of mothers and children*. 3 vols. East Port, Dunfermline: Carnegie United Kingdom Trust, vol 3.

⁹⁸ On Newman, see Sturdy S, 'Newman, Sir George (1870-1948)', *ODNB*.

⁹⁹ Respectively: Campbell JM. (1922) *The education of medical students in obstetrics*. Reports on public health and medical subjects no. 20. London: HMSO; idem. (1923) *The training of midwives*. Reports on public health and medical subjects no. 21. London: HMSO; idem. (1924) *Maternal mortality*. Reports on public health and medical subjects no. 25. London: HMSO; idem. (1927) *The protection of motherhood*. Reports on public health and medical subjects no. 48. London: HMSO. For an example of Campbell's memoranda, see idem. (1929) *Maternal mortality in childbirth: ante-natal clinics: their conduct and scope*. Memorandum 145/MCW. London: HMSO.

¹⁰⁰ Campbell's conclusions were supported by the *Lancet*. See, for example, [Anon.]. (1924a) News. Maternal mortality. *Lancet* I: 716-717; [Anon.]. (1924b) Editorial. Maternal mortality in childbirth. *Lancet* I: 809-810.

¹⁰¹ There is no substantial existing work on the history of MCW itself, but the wider subject of interwar maternity and child welfare has received considerable attention. On the MCW Act, 1918, and Campbell's role in MCW itself, see Oakley (1984), pp54-58, 69-72. On concerns over the impact of maternal and infant mortality on 'national deterioration' before and during the First World War, see Dwork D. (1987) *War is good for babies and other young children: a history of the infant and child welfare movement in England, 1898-1918*. London: Tavistock Publications, esp chaps I, IV, conclusion. On the development of maternal and child welfare services after the First World War by London County Council, see Marks LV. (1996) *Metropolitan maternity: maternal and infant welfare services in early twentieth century London*. *Clio Medica* 36. Amsterdam: Rodopi. See also Garcia et al (1990). For a presentist take on the

annual report for 1915 Dr Arthur Newsholme, then medical officer to the Local Government Board (LGB), one of the organisations amalgamated to form the MoH in 1919, claimed that the combined effects of a declining birth rate and high maternal mortality had deprived Britain of almost half a million births since 1876.¹⁰² In the decade after the end of the First World War this concern shifted towards the ways in which maternal and infant mortality could be improved by state and medical intervention.¹⁰³ Harris argues that the provision of maternity and child welfare services at a municipal level under the Maternity and Child Welfare Act, 1918, was 'the most important of all the new [welfare] services in the interwar period'.¹⁰⁴ In 1919 members of the public established the National Association of Maternity and Child Welfare (NAMCW) as a forum for debate.¹⁰⁵ Koven & Michel have argued that the increased participation of women in the political process after the end of the First World War shaped the development of the British welfare state, and placed maternalist discourses at the heart of debates over social intervention and welfare provision.¹⁰⁶

In the early 1920s, several obstetric units in England and Wales began their own investigations into maternal mortality. Dame Louise McIlroy, obstetrician to the Royal Free Hospital, London, carried out one of the largest such studies, which concluded that hospitals were the safest place to give birth.¹⁰⁷ This view was not universal: other obstetricians looked within their own profession for the causes of high maternal mortality. In an address to the Midland Medical Society in October 1922 Thomas Watts Eden, an obstetric physician at the Charing Cross Hospital, London, presented his analysis of the CMO's statistics on maternal

political role of the CMO, see Sheard S, Donaldson L. (2006) *The nation's doctor: the role of the Chief Medical Officer 1855-1998*. Oxford: Radcliffe Publishing. An excellent general account of British social history in this period is Harris J. (1993) *Private lives, public spirit: a social history of Britain 1870-1914*. Oxford: OUP.

¹⁰² Newsholme A. (1915) Maternal mortality in connexion with childbearing. Report of the medical officer of the Local Government Board. *Lancet* II: 1157-8, p1157.

¹⁰³ See, for example, [Anon.]. (1919) Editorial. The maternal mortality of childbirth and the teaching of midwifery. *Lancet* I: 802-803. See also Oakley (1984), pp62-65.

¹⁰⁴ Harris (2004), p234. On the role of women public health visitors in the provision of municipal maternity and child welfare services in the interwar period, see Abi Wills' forthcoming book.

¹⁰⁵ I have been unable to locate any archival material relating to the NAMCW. On its foundation and history, see [Anon.]. (1931) Annotations. Maternal mortality again. *Lancet* II: 82-83.

¹⁰⁶ Koven S, Michel S, 'Introduction: 'Mother Worlds'', in Koven S, Michel S. (eds) (1993) *Mothers of a new world: maternalist politics and the origins of welfare states*. London: Routledge, pp1-42.

¹⁰⁷ McIlroy L, Turner B. (1930) Maternal mortality in the obstetrical and gynaecological unit, Royal Free Hospital. *Lancet* I: 97-99. On McIlroy, see Pitt SJ, 'McIlroy, Dame (Anne) Louise (1878-1968)', *ODNB*.

mortality.¹⁰⁸ Eden pointed out that, while the overall rate of maternal mortality in Britain had remained roughly static for two decades, the proportion of deaths due to puerperal sepsis had risen sharply in the last five years. He blamed his colleagues' enthusiasm for instrumental intervention in birth.

Though neither Campbell, Eden nor Milroy explicitly identified poor midwifery as a significant cause of maternal deaths, some midwifery organisations in this period felt themselves implicitly accused of negligence in this matter. Traditional 'Gamp' stereotypes, these groups believed, led the public to see midwives as solely responsible for high maternal mortality and the spread of puerperal sepsis.¹⁰⁹ Resolutions passed at the 1923 annual general meeting of the Midwives' Institute urged the MoH to improve the presentation of its statistics on maternal mortality.¹¹⁰ It should, they argued, make clear what proportion of maternal deaths occurred under the sole supervision of midwives and what proportion under the joint supervision of midwives and physicians. It should also make provision on birth certificates for recording the name and status of the practitioner who actually carried out the delivery. Speakers at a conference organised by the Post-Certificate School of Midwifery in November 1925 urged midwives to take up all opportunities for training, and to make sure they were closely involved in antenatal care.¹¹¹

In 1924 an MCW circular had raised the possibility of MOsH acting as data collectors for a national investigation of maternal mortality, and in February 1928 Newman formally put this

¹⁰⁸ Eden TW. (1922) An address on the maternal mortality of childbearing: its causes, and how to deal with them. Delivered at the inaugural meeting of the Midland Medical Society on 25 Oct by Thomas Watts Eden, M.D., F.R.C.S. Edin., F.R.C.P. Lond., Obstetric Physician, Charing Cross Hospital, London. *Lancet* II: 998-1004.

¹⁰⁹ On the persistence of the 'Gamp' stereotype in midwifery, see Williams (1997) pp55-58. For a demographic account of maternal mortality in relation to midwifery, see Loudon I, 'Midwives and the quality of maternity care', in Marland & Rafferty (1997), pp180-200.

¹¹⁰ [Anon.]. (1923) News. High maternal mortality: resolutions by the Midwives' Institute. *Lancet* I: 669. The Midwives' Institute was founded in 1881, and in 1941 was renamed the 'College of Midwives'. Between 1933 and 1957 it shared offices on Lower Belgrave Street with the NBTF and the Queen's Institute for District Nursing (QIDN). On the foundation and early history of the Midwives Institute, see Cowell B, Wainwright D. (1981) *Behind the blue door: the history of the Royal College of Midwives, 1881-1981*. London: Balliere Tindall, pp13-18. See also Rhodes (1995), p87.

¹¹¹ [Anon.]. (1925) Maternal mortality. A conference arranged by the Post-Certificate School held at the house of the Royal Society of Arts on 9 Nov to discuss *How the Midwife can Help to Reduce Maternal and Infant Mortality*. *Lancet* II: 1037-1039. I have been unable to locate any further information on the Post-Certificate School of Midwifery.

idea to Neville Chamberlain, then Minister of Health.¹¹² Chamberlain approved, and the DCMMM was formally established in June 1928.¹¹³ Twelve members were appointed – six practising obstetricians and six civil servants, with Newman in the chair.¹¹⁴ They aimed to collect reports on all maternal deaths that occurred in England and Wales during the period of their study, and would proceed on the following lines. MOsH would be notified of all maternal deaths within their administrative area, either by their own clinical contacts or by the county registrar of births, marriages and deaths. They would investigate each death, following a centrally specified protocol, and then submit their report to ‘some competent central body’.¹¹⁵ By the autumn of 1928 an outline of the study had been sent to every MOH in England and Wales.¹¹⁶ The DCMMM appointed two members of the new BCOG – Arnold Walker, chairman of the CMB, and George Gibberd – as consultant advisors in obstetrics.¹¹⁷ Walker and Gibberd would evaluate each report of a maternal death, and provide a clinical commentary for the DCMMM.

Walker and Gibberd quickly agreed that in order for the DCMMM to produce useful recommendations on maternal care, it had to develop a system for classifying the causes of maternal deaths.¹¹⁸ They proposed that each death be evaluated in terms of a ‘primary avoidable factor’ (PAF). This was not a ‘cause of death’ in the physiological sense, but rather the major

¹¹² Sir George Newman, CMO, MoH, to Neville Chamberlain, Minister of Health, 22 Feb 1928, TNA MH 55/266. On Chamberlain, see Crozier AJ, ‘Chamberlain, (Arthur) Neville (1869–1940)’, *ODNB*.

¹¹³ It is perhaps worth noting that only a few days before Chamberlain appointed the DCMMM, the Labour Party’s standing joint committee of industrial women’s organisations published a report on maternal mortality, based on statistics collected independently of the MoH and highly critical of the Conservative government’s approach to public health and local government. This report was debated at the National Conference of Labour Women in August 1928. See Labour Party standing joint committee of industrial women’s organisations. (1928) *Prevention of maternal mortality and the government’s attack on local government: reports to be presented to the National Conference of Labour Women at Portsmouth*. London: Labour Party.

¹¹⁴ ‘DCMMM. Minutes. 21 Jun 1928’, TNA MH 55/266. The *Lancet* brought the establishment of the Committee to the attention of its readers. See [Anon.]. (1928) News. Maternal mortality. *Lancet* I: 1187.

¹¹⁵ DCMMM. (1930) *Interim report of the Departmental committee on maternal mortality and morbidity*. London: HMSO, para 3.

¹¹⁶ The DCMMM drew up a standard form for reporting maternal deaths, which was officially issued by the MoH as Form MCW97 on 24 October 1928. It is reprinted in DCMMM (1930), Appendix 1.

¹¹⁷ On Walker, see Peel J, ‘Walker, Arnold Learoyd, Sir (1897-1968)’, in Peel J. (1976) *The lives of the fellows of the Royal College of Obstetricians and Gynaecologists: 1929-1969*. London: Heinemann Medical Books, pp365-366. On Gibberd, see Cornelius EH, ‘Gibberd, George Frederick, (1902-1976)’, in Cornelius EH. (1988) *Lives of the fellows of the Royal College of Surgeons of England 1974-1982*. London: Royal College of Surgeons of England, pp149-150.

identifiable mistake or problem in the train of events leading up to a maternal death. They were keen to stress that the PAF was not an 'objective' measurement based on a rigid, abstract concept of the 'normal' birth. Rather, it reflected the best judgement of two experienced clinicians, founded on a 'common-sense' standard of what might have been expected in the circumstances of a particular death. Analysis by PAF had several advantages for the DCMMM. It enabled them to draw a broad distinction between maternal deaths caused by social factors (malnutrition, say, or poor housing) and those due to clinical errors (such as an overdose of anaesthetic or a failure to recognise the signs of haemorrhage). It broke down a large and complex body of statistical data into a comparatively small number of categories. And it drew attention to the most common failures in antenatal, intranatal and postnatal care, allowing the DCMMM to make clear recommendations for obstetric practice.

One major disadvantage of the PAF was its implication of blame. By drawing attention to one decision in the care of an individual mother, the PAF tended to emphasise the responsibility of a single practitioner in causing a particular death. What would happen if the relatives of a deceased woman managed to identify her case in the DCMMM's report, and on this basis brought a negligence suit against the clinician involved? Far from improving the standards of maternal care, the DCMMM might be seen to be bringing the obstetric profession into disrepute. It might even lose the co-operation of local consultant obstetricians, a relationship on which the accuracy and comprehensiveness of their investigation depended. The DCMMM resolved that their reports should, in discussing PAFs, stick as far as possible to generalities without discussing the details of individual cases.

Collection and analysis of reports began in the autumn of 1928, and by April 1930 3,079 maternal death reports had been received.¹¹⁹ At this stage the DCMMM issued an interim report, based on an analysis of the first 2,000 reports collected. A final report, issued in April 1932, included an analysis of all 5,800 cases collected in the period of the study, and repeated the

¹¹⁸ Walker and Gibberd's draft definitions for the PAF is given in 'DCMMM. Investigation of maternal deaths by local authorities', undated, TNA MH 55/267. The eight criteria they chose to define a PAF are listed in DCMMM (1930), para 24.

¹¹⁹ DCMMM (1930), para 7.

conclusions and recommendations expressed in the interim report.¹²⁰ In its interim report the DCMMM found 'about half the deaths of women in childbirth to be directly preventable'.¹²¹ But in the overwhelming majority of these 'preventable' deaths, the PAF was the availability, and not the standard, of hospital-based maternal care. The interim report made repeated references to increasing the provision of midwives, obstetricians, hospital beds in maternity wards and transport for mothers to and from hospitals, all as part of a national maternity service.¹²² This centrally-funded and centrally-organised service would, they claimed, provide antenatal care for all women, with an emphasis on the benefits of expert obstetric care in a hospital setting; enough hospital beds for (at this point) 50% of British births; and a network of experienced GP-obstetricians for those women who insisted on home birth.¹²³

The subject of obstetric anaesthesia and analgesia occupied the longest chapter in the interim report. Unlike every other chapter, it was not based on an analysis of statistical data abstracted from reports of maternal deaths. Instead, it reported the arguments and conclusions expressed in a series of memoranda, submitted by expert committees of various national medical organisations – the RCP, RCS, BCOG, BMA, Medical Women's Federation (MWF) and others.¹²⁴ This exception to the general method of the DCMMM's enquiry found its roots in the report of a previous MoH committee. From 1926 MCW had been carrying out the work of the MoH departmental committee on the training and employment of midwives (DCTEM) – a study of the declining status of midwives. Its report, published in 1929, invited 'some professional

¹²⁰ DCMMM. (1932) *Final report of the Departmental committee on maternal mortality and morbidity*. London: HMSO.

¹²¹ Newman later discussed these findings in a letter to the permanent secretary of the MoH. See Newman to the permanent secretary, MoH, 27 May 1932, TNA MH 55/270. Oakley argues that the DCMMM's two reports 'blamed the victim' by citing maternal ignorance as the major cause of maternal mortality. See Oakley (1984), pp72-74. See also William (1997), p53.

¹²² See, for example, DCMMM (1930), chap IX, recommendations 1-5, and DCMMM (1932), chap X, recommendations 1-7.

¹²³ The relationship between consultant obstetricians and GP-obstetricians was not as straightforward as the DCMMM's interim report implied. As Harris has pointed out, the MoH's Dawson report (1920) called for a closer relationship between preventive and curative medicine, and the integration of GP, hospital and public health services. See Harris (2003), p225. But Honigsbaum argues that professional tensions over community obstetrics was one major source of the professional schism between consultants and GPs (later embodied in the NHS) which resulted in the exclusion of consultants from local health centres and GPs from general hospitals. See Honigsbaum F. (1979) *The division in British medicine: a history of the separation of general practice from hospital care 1911-1968*. London: Kegan Page, pp137-149.

¹²⁴ DCMMM (1930), chap VI, paras 123-138.

body' to issue 'some pronouncement as to the advisability and place in labour not only of anaesthetics, but also of analgesics and sedative drugs generally'.¹²⁵

Chamberlain wrote to the presidents of the RCS, BCOG and RCP, asking each if their organisation would be prepared to do this. None were, but all offered to submit evidence to the MoH so that it could make recommendations.¹²⁶ By the autumn of 1929 the colleges' memoranda, along with unsolicited reports from several interested organisations, had reached the MoH. In the DCMMM's interim report Walker and Gibberd used these memoranda, and their own clinical experience, to explore the relationship between midwifery and pain relief under a national maternity service.

Women who gave birth at home were, the members of the DCMMM agreed, just as deserving of pain relief as those who gave birth in hospital. But how could domiciliary midwives relieve their pain safely and effectively? Certainly not with anaesthetic agents. In the DCMMM's view, the benefits of a particular anaesthetic agent were less important than the experience an individual practitioner had in its use, and the confidence with which he or she could apply it to obstetric practice.¹²⁷ The memoranda argued that, while nurses and midwives were perfectly capable of maintaining anaesthesia under close supervision from an experienced clinician, putting ether or chloroform into the hands of unsupervised midwives would provoke a calamity of national proportions.¹²⁸ Not only the BCOG but also the BMA, RCS, MWF and RCP took this view: midwives were, they agreed, not to be trusted with anaesthetics.

Moreover, the memoranda claimed that the existing analgesics available to midwives under the rules of the CMB were themselves potentially dangerous, and should only be administered after consultation with a doctor. Midwives, both at home and in hospital, should instead adopt

¹²⁵ DCTEM. (1929) *Report of the departmental committee on the training and employment of midwives*. London: HMSO, conclusion 4.

¹²⁶ A copy of Chamberlain's letter, and the replies it elicited, is held with the papers of the DCMMM in TNA MH 55/266 and 55/267. See, for example, Chamberlain, draft of circular letter, Jun 1929, TNA MH 55/266.

¹²⁷ Though the committee had argued that anaesthetics should not be given as a matter of routine to women in 'normal' childbirth, Dr Rhoda Armstrong, representing the MWF, was quoted as suggesting that chloroform anaesthesia should be offered to all women fit to receive it. This would provide, she argued, a large number of patients on which medical students could gain much-needed practice in giving general anaesthetics. See Armstrong, quoted in DCMMM (1930), para 128.

¹²⁸ 'RCP president's committee memorandum', undated, TNA MH 55/267, also quoted in DCMMM (1930), para 133.

the traditional role of the nurse (and woman) as watcher and carer. By attending to the comfort and wellbeing of mothers in childbirth, they could relieve their pain in the safest (and least demanding) way possible. Wider provision of antenatal care would make midwives and clinicians more aware of the analgesic needs of mothers. Better transport arrangements would enable more GPs to provide anaesthesia for women giving birth at home, or to admit them to a maternity ward. And greater numbers of maternity beds would allow more women to give birth in hospital. Midwives, however, would lose their status as independent practitioners, becoming in effect maternity nurses who could work only under the orders and supervision of obstetricians.¹²⁹

The publication of the DCMMM's interim report in August 1930 provoked a great deal of public and medical interest in the subject. Its conclusions were summarised in two articles in the *Lancet*.¹³⁰ Their anonymous author praised the DCMMM for its thoroughness, and supported its call for a national maternity service. Throughout the 1930s the *Lancet* continued to publish studies of maternal mortality and editorials calling for governmental action on the subject.¹³¹ As prime minister (and as the husband of Lucy Baldwin, vice-chairman of the NBTf and one of the most active campaigners for maternal welfare in this period) Stanley Baldwin took up the rhetoric of maternal welfare. In an address to the BCOG's annual dinner in November 1934 he acknowledged 'the profound and increasing influence... of urbanisation and industrialisation on childbearing', and urged obstetricians to maintain a high standards of practice.¹³² Campbell, meanwhile, used the data collected by MCW to prepare a separate report, published in 1932,

¹²⁹ This strong and direct challenge to the CMB's policy of improving the status of midwives as independent practitioners came from the same obstetricians selected by the CMB to provide expert advice on ways in which this policy could be carried out. Williams points out that John Fairbairn, then chairman of the CMB, responded to the DCMMM's report by advocating a national maternity service built around a properly salaried domiciliary midwifery service. Fairbairn discarded this idea when he was elected president of the RCOG a year later. See Williams (1997) pp54-55.

¹³⁰ [Anon.]. (1930a) Maternal mortality and morbidity. Interim report of departmental committee of the Ministry of Health. *Lancet* II: 321-324, 367-369. The DCMMM's final report was not summarised in this way on its publication in 1932.

¹³¹ See, for example, [Anon.] (1931); Browne FJ. (1932) Antenatal care and maternal mortality. *Lancet* II: 1-4; [Anon.]. (1934) Editorial. Maternal mortality. *Lancet* II: 1111-1112; Holland E. (1935) Maternal mortality. An address read to a sessional meeting of the Royal Sanitary Institute on 9 April 1935. *Lancet* I: 973-976; [Anon.]. (1937) Maternal mortality: the two reports. *Lancet* I: 1125-1129.

¹³² Stanley Baldwin, quoted in [Anon.] (1934), p1111.

which highlighted geographical variations in maternal mortality.¹³³ Following her retirement from the civil service in 1934, she began to take a more public role in debates on this subject, supporting calls for a national maternity service.¹³⁴

But as medical and governmental interest in the idea of a national maternity service grew, the DCMMM began to wind down.¹³⁵ Its last official meeting took place in 1932, a few weeks after the publication of the final report. Members of the DCMMM raised, in fairly abstract terms, the possibility of continuing its work in some way, but this appears to have come to nothing.¹³⁶ The DCMMM remained dormant until its official dissolution in 1935, but the structures and procedures established by MCW for the collection of information relating to maternal deaths were left in place.¹³⁷ As a result of this, MOsH continued to collect and submit reports on maternal deaths to MCW throughout the 1930s and 1940s. One further MCW investigation, *Report on an investigation into maternal mortality* (1937), used some of these data to identify the social causes of maternal mortality amongst mothers living in industrial areas affected by economic depression.¹³⁸ Between 1937 and the end of the Second World War, data from maternal death reports appear to have been used only in the preparation of national statistical tabulations for the annual report of the CMO.¹³⁹

¹³³ Campbell JM. (1932) *High maternal mortality in certain areas*. Reports on public health and medical subjects no. 68. London: HMSO.

¹³⁴ Under civil service regulations, Campbell was required to resign when she married. See Hogarth (2004). On her later work on maternal mortality, see [Anon.]. (1935a) Annotations. Maternal mortality committee. *Lancet* II: 43-44; [Anon.]. (1935b) Maternal mortality. A discussion by the Fellowship of Medicine at the Royal Society of Medicine, Nov. 13th. *Lancet* II: 1254-1256.

¹³⁵ Papers relating to the committee's dissolution are held in TNA MH 52/244.

¹³⁶ The DCMMM's administrative team was reassembled for three months in the summer of 1934. They assembled statistical information for a ministerial brief in response to a further report prepared by the National Conference of Labour Women. See Labour Party standing joint committee of industrial women's organisations. (1935) *Prevention of maternal mortality and the government's attack on local government: reports to be presented to the National Conference of Labour Women at Sheffield*. London: Labour Party, TNA MH 55/265.

¹³⁷ MCW papers from the 1930s and 1940s suggest no concrete reason for this partial dissolution. No reference is made to any specific ongoing study involving the information obtained in this way, but no orders were issued for the suspension of what was a complex and time-consuming administrative procedure.

¹³⁸ Newman G et al. (1937) *Report on an investigation into maternal mortality*. London: HMSO. Papers relating to this investigation are held in TNA MH 52/294 and MH 55/264.

¹³⁹ See, for example, the tables in Jameson WW. (1946) *On the state of the public health during six years of war. Annual report of the Chief Medical Officer of the Ministry of Health 1939-45*. London: HMSO, pp260-264.

2.1.3. The NBTF and analgesia for domiciliary midwives 1928-1945.

As the discussions surrounding the DCMMM's interim report suggest, improving the professional status of midwives in England and Wales in this period was highly problematic. In 1930 the NBTF brought a new dimension to this debate when it began to campaign for pain relief in labour and to fund research into new methods of analgesia for use by unsupervised midwives. Webster argues that the rise of a powerful and influential 'voluntary sector' in British healthcare before the Second World War provides a central context for understanding the 'clashes of ideological loyalty... between affected vested interests' that characterised the period around the establishment of the NHS.¹⁴⁰ Harris, too, identifies maternity and child welfare as a particular concern of the British 'new philanthropy' in the interwar period.¹⁴¹ Between its foundation in 1928 and the beginning of the Second World War, the NBTF's own view of its social and political role led it to form close, reciprocal links with central government and the BCOG. But in order to achieve its stated aim – a reduction of maternal mortality rates amongst the poor – the NBTF focused on domiciliary midwives as the most effective way of bringing improvements in analgesia and maternal care to poor mothers giving birth at home. This tension between supporting midwives and obstetricians, home and hospital birth, local and national contexts, informed the NBTF's approach to pain relief in childbirth before the Second World War.

Williams notes that the NBTF's organisational character was a central factor in determining its policy and influence before the Second World War. Members of the NBTF were mainly of the upper-middle class and aristocracy, and mostly women. Of its founding membership of forty, twenty-eight were female and twenty titled or ennobled.¹⁴² This pattern reflected the NBTF's outlook and *modus operandi*. It was not an campaign group of bourgeois intellectuals, such as those involved in the campaign to promote birth control in the same period, and did not

¹⁴⁰ Webster (2002), p3.

¹⁴¹ Harris (2004), pp186-190.

¹⁴² It is perhaps worth noting that, throughout the NBTF's history, its financial committee was entirely male and almost entirely titled. Appendix B of Williams (1997) reproduces NBTF committee membership lists.

have a large national membership.¹⁴³ This small, elite group placed itself among the (socially and politically) conservative establishment, and sought to direct its campaigns from this position of power and influence.

The NBTF Executive Committee – ten to fifteen members chosen on the basis of their interest and influence – used two strategies in their campaigns for the two audiences they wished to reach. When addressing the public en masse, the Executive Committee used all the techniques then available for charitable campaigns: flag days, lectures, radio broadcasts, articles and adverts in the popular press, pamphlets and so on.¹⁴⁴ When operating within what it saw as its socio-political home ground, however, it sought direct influence in government and the medical establishment through personal friendships, social contacts and discreet lobbying. In this way, the NBTF sought to maintain a working relationship with many diverse (and sometimes conflicting) groups: the public, the national popular press, senior officials in the MoH and CMB, successive governments in the Commons and Lords, and members of the medical establishment.¹⁴⁵

The NBTF's influence at the highest levels of government was revealed when Baldwin's 'National Government' passed a new Midwives Act in 1936.¹⁴⁶ This Act – atypically interventionist for an otherwise laissez-faire administration – sought to address the problems of midwife recruitment and morale identified by MCW and the CMB. It authorised, but did not compel, local health authorities (LHAs) to provide a salaried domiciliary midwifery service, with all the benefits of permanent employment: pensions, annual leave, duty rosters, sick-pay and – crucially – the provision of equipment necessary for the practice of domiciliary midwifery. The NBTF was implicated in the origin, drafting and passage of this Act at almost

¹⁴³ The best recent histories of the British birth control movement in this period are Fisher K. (2006) *Birth control, sex and marriage in Britain 1918-1960*. Oxford: Oxford University Press; Cook H. (2004) *The long sexual revolution: English women, sex and contraception, 1800-1975*. Oxford: Oxford University Press.

¹⁴⁴ The NBTF's name derived from an early fundraising campaign, in which members of the public were invited to make a small annual donation on their birthday to commemorate their own safe and successful birth. See Williams (1997), p1.

¹⁴⁵ Tristram Hunt has identified a similar duality in the pre-war work of the Campaign for the Protection of Rural England (CPRE), founded in 1926. See Hunt T. (2006) England and the octopus. *History Today* 56 (July): 34-40, p37.

¹⁴⁶ For a useful discussion of the 'National Government', which connects Baldwin's home and foreign policies, see Smart N. (1999) *The National Government, 1931-40*. London: Macmillan.

every level.¹⁴⁷ The Bill on which the Act was based had been drafted by the NBTF's joint council of midwifery (JCM).¹⁴⁸ Executive Committee members kept in regular contact with senior government ministers throughout the passage of the Bill. Perhaps most significantly, the NBTF campaign for the passing of the Act was led by Lucy Baldwin – who was, as section 2.1.2 noted, not only vice-chairman of the NBTF but also wife of the prime minister.

But the NBTF also sought to exert influence at a local level. In distributing money, analgesic apparatus and educational materials the NBTF consistently favoured applications from small, independent associations of midwives, local voluntary hospitals, and individual medical or scientific researchers working on small projects.¹⁴⁹ In this way, NBTF attempts to improve conditions and services for individual mothers at a local level were not mediated by representatives of central or local government, but by local doctors and midwives working in their own communities.

Working-class mothers, amongst whom infant and maternal mortality rates were believed to be highest, were the main targets of the NBTF Executive Committee's early campaigns on analgesia.¹⁵⁰ In its public campaigns on this subject, the Executive Committee adopted the rhetoric of social equality. In the words of an NBTF leaflet on 'safer motherhood', published in the early 1930s, it aimed 'to secure for the poorer mother the same relief from suffering as is invariably offered to her well-to-do sister'.¹⁵¹ And as most working-class mothers gave birth at home with the help of a midwife, the Executive Committee saw domiciliary midwives as the best vector for carrying pain relief, and also nutritional supplements and antenatal care, to where they were needed most acutely.¹⁵² The crucial step here was to develop a method of pain relief

¹⁴⁷ Williams (1997), chap 3, esp pp63-69.

¹⁴⁸ The JCM, established in 1934, was composed of NBTF Executive Committee members, representatives of medical organisations with an interest in maternal care (particularly the BCOG), and members of the Lords and Commons. It was chaired by the Earl of Athlone, the brother of Queen Mary. On the foundation and structure of the JCM, see *ibid.*, pp11-12.

¹⁴⁹ *Ibid.*, chap 2, esp 34-46.

¹⁵⁰ Loudon's work suggests that, in this period, the maternal mortality rate in England and Wales was lower among poor mothers than among the rich. See Loudon (1992), chap 14, esp pp251-253. At the time, however, maternal mortality was widely perceived to be higher amongst the poor than the rich. The NBTF charter, for example, referred specifically to a high maternal mortality rate amongst the poor. See Williams (1997), chap 1, esp pp8-12.

¹⁵¹ 'Safer motherhood', undated (? early 1930s), WTL SA/NBT/G.4/1.

¹⁵² On these and subsequent developments in obstetric analgesia, written from an exclusively technical perspective, see Thomas TA, 'Self-administered inhalation analgesia in obstetrics', in Atkinson RS,

that the CMB's expert advisors – by now, all members of the BCOG – would find safe, simple and effective enough to be used by unsupervised midwives.

In this matter, the NBTF was assisted by one of its less eminent but, subsequently, most doggedly supportive contacts in the medical profession. In December 1933 Dr John Elam, a GP-anaesthetist working at the Wellhouse Hospital, Barnet, wrote to the Executive Committee, advising them to investigate the work of Dr Robert Minnitt, another GP anaesthetist working at the Liverpool Maternity Hospital.¹⁵³ Minnitt had designed an inhaler that would supply a mixture of nitrous oxide and atmospheric air in fixed proportions, potent enough to provide pain relief in childbirth, but never so strong as to cause unconsciousness. More recently, he had produced a portable version of his inhaler – the 'Minnitt machine' – which used one of the standard sizes of nitrous oxide cylinder manufactured by the British Oxygen Company (BOC).¹⁵⁴ Both versions of the inhaler were, Minnitt claimed, safe and simple enough for mothers themselves to use without constant supervision, leaving the midwife or obstetrician free to focus on delivery. Elam had tested a prototype of this machine with the midwives at the Wellhouse Hospital: could the NBTF help with development and publicity?

Once again, the NBTF Executive Committee approached this subject via its network of social and professional contacts. Louis Carnac Rivett, a fellow of the BCOG and obstetrician to Queen Charlotte's Maternity Hospital, also served on the Executive Committee.¹⁵⁵ In the autumn of 1932 he approached the BCOG on behalf of the Executive Committee, with an offer of several hundred pounds for research work on the Minnitt machine. The BCOG agreed to establish a research committee of senior fellows. Between 1933 and 1936 this committee investigated the Minnitt machine, and two other analgesic techniques suggested by the

Boulton TB. (eds) (1988) *The history of anaesthesia: proceedings of the Second International Symposium on the History of Anaesthesia, London, July 1987*. London: Royal Society of Medicine Press, pp295-298.

¹⁵³ On Elam's involvement with the Minnitt machine, see Williams (1997), p136. On his post-war work with the NBTF, see section 3.1.

¹⁵⁴ BOC was founded as Brin's Oxygen Company by two brothers, Arthur and Leon Brin, in 1886. In 1906 it was renamed the 'British Oxygen Company'. On its history, see the BOC website: www.boc.com/aboutus/history/index.asp, accessed 14 Jan 2005.

¹⁵⁵ On Rivett, see Peel J, 'Rivett, Louis Carnac (1888-1947)', in Peel (1976), pp317-319.

Executive Committee.¹⁵⁶ In its final report, published in the spring of 1936, the BCOG's research committee found only the Minnitt machine safe for use by unsupervised midwives.¹⁵⁷ It concluded that, in general, mixtures of between 35% and 45% nitrous oxide in air provided a safe, effective means of relieving pain in childbirth. The CMB accepted the BCOG's recommendation. By January of the following year, it had altered its regulations, enabling midwives to use three models of nitrous oxide / air inhalers based on Minnitt's design.¹⁵⁸

These new regulations also made provision for the approval of new inhalers made to different designs, so long as they could reliably provide a nitrous oxide / air mixture in line with the BCOG research committee's recommendations. But the use of approved nitrous oxide / air inhalers by unsupervised midwives was made subject to three conditions. Mothers must be medically examined in the month before the predicted date of their confinement, and certified fit to receive nitrous oxide / air. Each midwife must be properly instructed in the correct use of the Minnitt machine and its variants. And any unsupervised midwife intending to use a Minnitt machine at home births must be accompanied by another midwife, state registered nurse (SRN) or pupil midwife.

In practice, the second and third conditions severely restricted the availability of the Minnitt machine to mothers. The third restriction effectively doubled the number of domiciliary midwives needed in areas where the Minnitt machine was used.¹⁵⁹ Though the use of nitrous oxide / air apparatus under the supervision of physicians had been a (small) part of the CMB's

¹⁵⁶ The other techniques tested were glass capsules containing a fixed quantity of chloroform, which could be broken and poured on to a cotton mask, and paraldehyde administered as an enema. See Williams (1997), chap 6, esp pp130-135.

¹⁵⁷ BCOG. (1936) *Investigation into the use of analgesia suitable for administration by midwives*. London: BCOG.

¹⁵⁸ In subsequent literature the term 'Minnitt machine' has been used as an umbrella term to denote nitrous oxide / air apparatus produced to Minnitt's design. I follow this convention here. For the CMB's regulations relating to the Minnitt machine, first published in 1937, see CMB. (1937) *The midwife's handbook: incorporating rules framed by the Central Midwives Board under the Midwives Acts 1902 and 1936*. London: CMB. The Nuffield Department of Anaesthetics Museum, Oxford, holds an original Minnitt machine. See www.nda.ox.ac.uk/museum/fulls/mu00138.jpg, accessed 29 Nov 2006.

¹⁵⁹ In the summer of 1939, the National Federation of Women's Institutes (NFWI) petitioned the CMB to relax this regulation. By 1942, under the pressure of war, it was widened to include members of the British Red Cross, the Order of St John and the Voluntary Aid Detachment (VAD). In 1945 it was relaxed even further to include any responsible person acceptable to both mother and midwife. See, respectively, 'Discussion between representatives of the NFWI and of the CMB', 27 Jun 1939, TNA DV 11/4; RCOG. (1942) *Report of the analgesics sub-committee accepted by the council of the college on 25 July 1942*. London: RCOG p1, TNA MH 55/1501; 'CMB advisory memorandum regarding the use of drugs and gas and air analgesia by midwives', 1945, WTL SA/NBT/F.7/3/2.

training curriculum since the late 1920s, it quickly found that very few midwives had sufficient skill or experience to use the Minnitt machine safely. In the winter of 1937 the CMB banned unsupervised midwives from using the Minnitt machine until they had obtained a certificate of proficiency. This would prove that they had attended a refresher course of three lectures, with a syllabus written by Minnitt, and had satisfied their local MOH that they were now competent in the use of the Minnitt machine.¹⁶⁰ This programme of certification made slow progress. An RCOG investigation in 1944 found that only 2,400 of the 18,000 midwives then in practice in England and Wales had received the certificate.¹⁶¹

A further practical limitation came from ambiguities in the phrasing of the Midwives Act, 1936. The Act permitted LSAs to provide equipment necessary for the practice of midwifery. But they were not obliged to purchase Minnitt machines for their midwives, or to provide the cars or (at a pinch) bicycles necessary to transport the heavy and bulky Minnitt machine, and its spare cylinders of nitrous oxide, between cases. Some LSAs provided both apparatus and transport, but most did not. The NBTF, not willing to see the time, effort and funds it had expended in obtaining CMB approval for the Minnitt machine wasted, offered to supply machines to district or county nursing associations at a nominal charge.¹⁶² This again reflects the NBTF's emphasis on local voluntarism in the provision of maternal care. It did not supply Minnitt machines to the state in the form of the CMB or the LSAs, but directly to local midwifery associations, small voluntary hospitals and, in some isolated areas, to individual midwives. The impact of this scheme on the provision of pain relief by domiciliary midwives is, like that of the analgesic techniques approved by the CMB after the end of the Second World War, difficult to assess. NBTF literature in this period portrays the provision of Minnitt machines as one of their major activities, but by 1945 fewer than 400 had been supplied to

¹⁶⁰ A copy of this syllabus, dated 1945, is held in WTL SA/NBT/F.7/3/2.

¹⁶¹ RCOG. (1944) *Report on a national maternity service*. London: RCOG, p11, copy held in TNA DV 11/161. The CMB kept its own figures on the number of proficiency certificates issued to midwives, and these support the RCOG's claim. After the end of the Second World War, the rate of training and certification increased, and by 1955 the CMB had issued a total of 31,364 certificates. See 'Gas and air figures', 1955, TNA DV 11/11.

¹⁶² On the distribution of Minnitt machines by the NBTF, see Williams (1997), pp137-140.

hospitals and midwives in England and Wales.¹⁶³ Even this scheme did not allow for the provision of spare cylinders or transport.

2.1.4. Anaesthetists and obstetric anaesthesia in England and Wales before the Second World War.

In 1939 Andrew Claye, then professor of obstetrics and gynaecology at the University of Leeds, published what appears to have been the first history of obstetric anaesthesia by a British author.¹⁶⁴ Claye's text was not only the first British history of obstetric anaesthesia: it also appears to have been the first British text to have the phrase 'obstetric anaesthesia' in its title.¹⁶⁵ He traced a direct line of descent (or rather ascent – Claye's outlook was progressivist and avowedly whiggish) from Simpson to contemporary practice.

But Claye's work does not represent anything so grand as a foundational moment for obstetric anaesthesia as a clinical specialty or obstetric anaesthetists as a professional group. Claye was as an obstetrician, not an anaesthetist, and he regarded obstetric anaesthesia and analgesia as part of the duties of the obstetrician, not a separate professional discipline.¹⁶⁶ Claye's view reflects the status and state of obstetric anaesthesia and, more broadly, anaesthetists in this period. Existing histories of anaesthesia in Britain identify the 1930s, 1940s and 1950s as the period in which anaesthesia became established in Britain as a distinct clinical speciality.¹⁶⁷ Beinart and Boulton both identify five major factors in the specialisation and professionalisation of anaesthesia in this period:

¹⁶³ NBTf circular to membership of the QIDN, 1 Oct 1946, WTL SA/RNI/H.25.

¹⁶⁴ Claye (1939). Searches of Copac (the merged online catalogues of major UK and Irish university research libraries, plus the British Library and the National Library of Scotland and the British Library) have not identified any earlier texts with this title.

¹⁶⁵ Again, searches of Copac have not identified any earlier texts containing the phrase 'obstetric anaesthesia' in their titles.

¹⁶⁶ Claye (1939), pp94-99.

¹⁶⁷ Boulton (1999), pp2-3; Beinart (1987), chap 1, esp pp7-20.

- The foundation of the AAGBI and the creation of the Diploma in Anaesthetics (DA) in (1935).¹⁶⁸
- The demarcation of clinical knowledge and practices in anaesthesia through research.¹⁶⁹
- The training of a large number of specialist anaesthetists for field surgery during the Second World War.¹⁷⁰
- The establishment of anaesthesia as a hospital-based consultant speciality within the NHS.¹⁷¹
- The creation of the FARCS as a governing body for the new speciality, and the creation of its fellowship qualification (the FFARCS) in 1953 as a consultant-level qualification defining anaesthetic practices and knowledge and regulating entry to the speciality.¹⁷²

For purposes of discussion these factors can be divided between three periods defined by the Second World War (before, during and after). This and the two subsequent sections of this chapter examine and discuss the impact of these factors, and of further developments in obstetrics, midwifery and governmental health policy, on obstetric anaesthesia and analgesia, up to the creation of the FFARCS in 1953.¹⁷³

Before the Second World War, GPs provided most surgical anaesthesia in Britain.¹⁷⁴ A small number of full-time anaesthetists held posts in the larger teaching hospitals. Like the consultant surgeons of the period, their appointments were honorary and hence unsalaried. Unlike the surgeons, hospital anaesthetists found few opportunities for private practice in anaesthesia. Such opportunities tended to rely on close, reciprocal working relationships between individual

¹⁶⁸ Boulton (1999) pp1-2, 15-30, 47-51; Beinart (1987), pp14-17.

¹⁶⁹ Boulton (1999), pp13, 72; Beinart (1987), pp31-38.

¹⁷⁰ Boulton (1999), pp3, 64-79; Beinart (1987), pp47, 92.

¹⁷¹ Boulton (1999), pp89-92; Beinart (1987), pp61-65.

¹⁷² Boulton (1999), pp92-100; Beinart (1987), pp62-65.

¹⁷³ For a comparative example of medical specialisation in Britain in this period, see Cooter R. (1987) The meaning of fractures: orthopaedics and the reform of British hospitals in the inter-war period. *Medical History* 31: 306-332.

¹⁷⁴ Boulton (1999), pp9-11; Beinart (1987), pp10-14. The literature on 'GP-anaesthetists' is extremely scanty. Neither of the two most recent texts on British general practice in this period mentions the role of GPs in providing anaesthesia. See Loudon I, Horder J, Webster C. (eds) (1998) *General practice under the National Health Service 1948-1997*. London: Clarendon Press; Digby A. (1999) *The evolution of British general practice 1850-1948*. Oxford: Oxford University Press.

surgeons and anaesthetists, built up over decades.¹⁷⁵ Most hospital anaesthetists relied on large private general medical practices for their income, and treated their hospital work in anaesthesia as a personal interest or, like the surgeons, as a service to the poor.

In July 1932 a meeting of physicians who held honorary anaesthetics appointments in London teaching hospitals agreed to establish a national association for anaesthetists – the AAGBI.¹⁷⁶ Given his position as a former president of the AAGBI and as its official historian, it is perhaps not surprising that Boulton views the foundation of the AAGBI as the major step in the establishment of anaesthesia as an independent speciality before the Second World War.¹⁷⁷ Shortly after its foundation, the AAGBI adopted the *British Journal of Anaesthesia (BJA)* as its official journal.¹⁷⁸ This relationship persisted until 1942, when the AAGBI established its own journal, *Anaesthesia*, edited by Charles Langton Hewer, senior anaesthetist at St Bartholomew's Hospital, London.¹⁷⁹

In its first years, the AAGBI's governing committee saw a formal qualification in anaesthetics as the next step in improving the professional status of anaesthetists. Its response – the DA – was a joint venture between the AAGBI and the RCS. The AAGBI determined the curriculum and provided the examiners, and awards to successful candidates were made under the authority of the RCS. Modelled on the BCOG's DObst, the DA required the candidate to submit a log containing written accounts of a thousand anaesthetics for surgical procedures, and then to satisfy the examiners both in a written paper and in a viva voce exam involving demonstrations of anaesthetic equipment.¹⁸⁰ The AAGBI sought to universalise the new qualification by awarding it without examination to all practitioners who had held hospital

¹⁷⁵ Boulton states that the fees for anaesthetics performed were frequently paid to the surgeon, who would then pass on a proportion to the anaesthetist. See Boulton (1999), p9.

¹⁷⁶ On the foundation of the AAGBI, see *ibid.*, chap 3. According to Boulton, at the foundation of the AAGBI in 1932 'the Irish Free State... was then still loosely a part of the British Commonwealth' and so was included in the provisions of the AAGBI's constitution and in its name. This relationship was formalised when the Republic of Ireland was established in 1949. See *ibid.*, pp528-529.

¹⁷⁷ *Ibid.*, pp1-4.

¹⁷⁸ The *BJA*, founded in 1923 by an American anaesthetist working in Britain, had by 1932 become the major British print forum for the publication of research in anaesthetics, and for discussions between practitioners. See Spence AA, 'The *British Journal of Anaesthesia*: its evolution to the present position', in Ruprecht (1985), pp301-303.

¹⁷⁹ On Langton Hewer, see [Anon.]. (1986) Obituary. Christopher Langton Hewer, 1896-1986. *Lancet* I: 455; Boulton (1999), pp595-596. On *Anaesthesia*, see Boulton (1999), pp100-107.

¹⁸⁰ Boulton (1999), pp47-54.

appointments in anaesthetics for a decade or more.¹⁸¹ But until after the end of the Second World War no British institution offered a formal programme of postgraduate training in anaesthesia.¹⁸² Those interested in anaesthesia as a specialty were expected to gain experience as resident house officers, and to study privately for the DA examinations.¹⁸³

Until 1946, the only centre for anaesthetic research in the UK was the Nuffield Department of Anaesthetics (NDA) at the Radcliffe Infirmary, Oxford, under the leadership of Robert Macintosh, the first professor of anaesthetics in Britain.¹⁸⁴ In her account of the early history of the NDA Beinart acknowledges that most technical developments in anaesthesia before the Second World War came from institutions outside Britain.¹⁸⁵ Through the 1930s and 1940s older volatile anaesthetic agents, principally chloroform and ether, were gradually replaced by less toxic alternatives. The major problem of accurate dosage was lessened by the development of anaesthetic vaporisers that could give regulated doses over the course of a two- or three-hour surgical procedure.¹⁸⁶

How is this situation, professional and technical, reflected in the provision of obstetric anaesthesia and analgesia in England and Wales before the Second World War? In his 1939 history of obstetric anaesthesia Claye claimed that, with the exceptions of 'twilight sleep' and nitrous oxide / air, no specialised techniques for obstetric anaesthesia or analgesia had been

¹⁸¹ Ibid., pp47-54.

¹⁸² Ibid., p53.

¹⁸³ Interviews with two anaesthetists who attended British medical schools in the 1930s suggest that the teaching of anaesthesia at undergraduate level formed a very small part of an already crowded syllabus. See transcripts of author's interviews with Dr Thomas Bryson, consultant anaesthetist (retd), Liverpool Maternity Hospital, 9 Nov 2004; Dr Len Carrie, consultant anaesthetist (retd), Nuffield Department of Anaesthetics, 5 Aug 2004. Conybeare's *Textbook of medicine*, a text cited by both Bryson and Carrie in their interviews as a commonly used undergraduate text in this period, contains no information on anaesthesia. See Conybeare JJ. (ed) (1936). *A textbook of medicine*. Third edition. Edinburgh: E & S Livingstone. Textbooks on anaesthesia published in this period, none of which appear to have been aimed at medical students, include Blumfield J. (1906) *Anaesthetics: a practical handbook*. London: Balliere, Tindall and Cox; Buxton DW. (1914) *Anaesthetics: their uses and administration*. London: HK Lewis; Balme H. (1936) *The relief of pain: a handbook of modern analgesia*. London: J & A Churchill.

¹⁸⁴ The NDA was endowed by Lord Nuffield, initially against the will of Macintosh and the Radcliffe's trustees, and opened in 1937. See Beinart (1987), chap 1. On Macintosh, see Sykes K, 'Macintosh, Sir Robert Reynolds (1897-1989)', *ODNB*.

¹⁸⁵ Beinart (1987), pp22-31.

¹⁸⁶ For older agents such as chloroform, given by pouring directly on to a foam mask or cloth held over the patient's mouth and nose, dosage depended almost entirely on the skill and experience of the individual anaesthetist. On clinical research in the UK in the 1930s, see Boulton (1999), pp29-33; Beinart (1987), chap 1, esp pp7-14, 17-20.

developed.¹⁸⁷ Hospital-based anaesthetists might use more recent technical developments, such as 'regional' anaesthesia or analgesia, in their obstetric cases.¹⁸⁸ But most mothers, whether they received anaesthesia or analgesia from an obstetrician, an anaesthetist or their GP, would receive one of the older volatile agents. This would be administered in varying doses, to provide both analgesia and general anaesthesia for particularly painful periods of the delivery, instrumental deliveries and so on. Beinart takes this line of argument, claiming that, before the Second World War, obstetric anaesthesia and analgesia were differentiated from other types of anaesthesia and analgesia not by the techniques in use, but by the practitioners who used them.¹⁸⁹ Wealthy mothers might engage an obstetrician to conduct the delivery, and their personal physician or a second obstetrician to take care of pain relief. Poorer mothers would rely on their midwife or GP. If the delivery was complicated and the mother hospitalised for obstetric surgery, anaesthesia would be provided by the same practitioners and using the same techniques as for general surgery.

Accounts of obstetric anaesthesia and analgesia in England and Wales before the Second World War tend, at first reading, to appear rather confused. Neither Claye, Beinart nor Boulton felt able to draw clear lines between the practices of obstetricians, anaesthetists, general practitioners and midwives in providing pain relief in childbirth in this period. But this apparent confusion reflects the historical situation. Each of these professional groups were involved to varying degrees in the provision of obstetric anaesthesia and analgesia. All practised within an ill-defined domain of knowledge, techniques and workplaces. Some groups sought to bring structure and definition to this domain by disputing the authority and ability of other groups

¹⁸⁷ Claye (1939), chap 6, pp94-99. 'Twilight sleep' involved the injection of opiates and scopolamine to induce a state of restful amnesia during childbirth. On 'twilight sleep' in America in this period, see Sandelowski (1984); Caton (1999). On 'twilight sleep' in Britain, embedded in a typically progressivist account of the history of anaesthesia, see Dormandy (2006), pp429-436. Though the technique had largely dropped out of favour by the 1940s, my research on the British press suggests that the phrase 'twilight sleep' acquired several metaphorical meanings in popular language, and persisted in use for several decades. See Barnett (2005).

¹⁸⁸ Regional anaesthesia and analgesia involve the injection of anaesthetic or analgesic agents around particular nerves, nerve roots or parts of the spinal cord, to produce anaesthesia or analgesia in one part of the body while maintaining general consciousness and sensation. On the technical development of regional anaesthesia and analgesia in obstetrics, see Doughty in Morgan (1987). Textbooks on regional anaesthesia were published in English throughout this period. See, for example, Schlesinger A. (1914) *Local anaesthesia*. Translated by ES Arnold. London: Heinemann; Labat G. (1922) *Regional anaesthesia: its technic and clinical application*. London: WB Saunders; Macintosh RR. (1951) *Lumbar puncture and spinal analgesia*. Edinburgh: E & S Livingstone.

seeking to operate within it (for example, obstetricians' criticism of midwives in the reports of the DCMMM). Despite this, the provision of pain relief to women in childbirth in this period was, in terms of practitioners, knowledge and practices, a fundamentally heterogeneous field

2.1.5. Obstetrics, midwifery and anaesthesia in England and Wales during the Second World War.

Beinart and Boulton portray the Second World War as a particularly intense period of growth and professionalisation in British anaesthesia. Macintosh and the senior members of the AAGBI had been involved in the planning of the EMS, and when brought into action in 1938 the EMS included a range of roles for anaesthetists possessing the DA.¹⁹⁰ By October 1940 the EMS employed 147 full-time hospital anaesthetists, 46 part-time hospital anaesthetists and 797 GP-anaesthetists (out of a total medical staff of 6,231), along with 12 part-time 'consultant advisors in Anaesthetics' to advise on appointments and the distribution of supplies.¹⁹¹ The Royal Army Medical Corps (RAMC) used possession of the DA to determine the status of army physicians as 'specialists' in anaesthetics. Boulton reports that large numbers of clinicians conscripted for military service volunteered for training as field anaesthetists, and teaching hospitals established special courses to provide this training.¹⁹²

For obstetrics and midwifery, the Second World War appears to have been a period of further debate over planned reorganisation. The inclusion of the domiciliary midwifery service into the EMS at the outbreak of war in 1939 temporarily silenced pre-war debates on the status of midwives. A second report from the JCM, months before the outbreak of war, linked the

¹⁸⁹ Beinart (1987), pp130-135. See also Marland (2003), p566.

¹⁹⁰ The EMS was formally established in 1938, to deal with casualties expected from aerial bombing. On its origins and context, see Lawrence CJ, 'Continuity in crisis: medicine 1914-1945' in Bynum et al (2006), pp388-389. On the AAGBI's role in planning the EMS, see Boulton (1999), pp64-67. On Macintosh and the NDA's role, see Beinart (1987), pp41-50.

¹⁹¹ Papers relating to the appointment of EMS anaesthetics staff are held in TNA MH 76/227.

¹⁹² Ibid., pp3, 67-72. From 1940 the NDA offered a two-week intensive course for conscripted GPs who wanted to obtain the DA and specialist anaesthetist rank. See Beinart (1987), p47. Interviews with three British anaesthetists who served in the British army during the Second World War suggest that passing the DA was seen as a straightforward way of obtaining the higher pay and rank of the 'specialist'. See author's transcripts of interviews with Carrie; Bryson; Dr Derrick Holdsworth, consultant anaesthetist (ret'd), Dewsbury Hospital, 26 Nov 2004.

decline in the numbers of midwives to a general shortage of nursing staff.¹⁹³ It recommended an increase in the allowance paid to pupil midwives, to prevent the necessity of taking on debt to finance their training. But the decline in numbers of midwives continued through the Second World War, to the extent that in 1943 midwives were legally obliged to practise for at least a year after qualification.¹⁹⁴

Discussions over the reorganisation of obstetrics, anaesthetics and midwifery were given new momentum after the publication of the Beveridge report in 1942.¹⁹⁵ Webster has shown that the perceived success of the EMS at a national level led to many calls for its immediate conversion to a 'national hospital service'.¹⁹⁶ In response, the MoH promised that post-war health service reform would establish a comprehensive hospital service. This movement towards the centralisation and hospitalisation of healthcare mirrored the RCOG's response to the Beveridge report. In May 1944 it published a report on a national maternity service, based on evidence from its members, the CMB, the College of Midwives, London County Council (LCC) and the MoH.¹⁹⁷ In this document the RCOG repeated and expanded the view it had put forward in the DCMMM's interim report. It now claimed that 70% of all British births, rather than the 50% recommended by the DCMMM, should take place in hospital.

Under the RCOG's scheme, maternity care in Britain would be reorganised around a series of 'key centres', based in existing teaching hospitals. Key centres would provide facilities not only for antenatal teaching, birth and postnatal care but also for administration, teaching and research. This arrangement would promote a single (high) standard of maternity care throughout the country, but it would be expensive. The RCOG acknowledged that 'the shortage of trained personnel and their uneven distribution across the country' made extensive redistribution of

¹⁹³ 'Report of the JCM on the desirability of establishing a register of maternity nurses', 1939, TNA DV 11/161.

¹⁹⁴ Leap & Hunter (1993), p202-3.

¹⁹⁵ On the impact of the Beveridge report on British health policy, see Webster (2002), pp6-12.

¹⁹⁶ Ibid., p7.

¹⁹⁷ RCOG (1944). Though the College of Midwives was invited to advise the CMB and MoH on matters relating to midwifery, and was kept informed of changes in midwifery regulations, it was not involved in the JCM, and does not appear to have taken an active role in debates on the future of midwifery. Cowell & Wainwright characterise the RCM's approach to these debates as one of co-operation rather than antagonism. See Cowell & Wainwright (1981), pp64-70.

resources essential.¹⁹⁸ Against this, it claimed that a national maternity service would benefit all concerned. Midwives in particular would obtain better working conditions by being moved into hospitals. And the RCOG again identified the alleviation of pain in childbirth, in so far as it was consistent with the safety of mothers and babies, as one of the principal duties of the midwife.

But better training in anaesthesia and analgesia (and hence lower maternal mortality) could, the RCOG argued, be secured only if hospital birth was made the norm for at least 70% of British mothers. The CMB and NBTF argued that moving midwives into hospital would degrade their status still further by reducing them to the position of maternity nurses, with no professional independence or specialised skills. The MoH's Rushcliffe report (1943) argued that midwifery must be treated as a profession distinct from nursing.¹⁹⁹ But a two-year campaign by the MoH and CMB to recruit trainee midwives failed to raise the number of midwives.²⁰⁰ And the RCOG maintained its position. The hospitalisation of most British births remained, in its view, the only way forward.

2.1.6. Anaesthesia and the NHS 1948-1953.

Though the idea of basing the NHS directly on the wartime EMS had been rejected in the early post-war planning stages, Webster argues that all participants in later negotiations over the structure of the NHS knew that 'the hospital service was the dominant element within the new health service'.²⁰¹ It was within this 'dominant element', alongside the high-status speciality of surgery, that senior British anaesthetists sought to place themselves and their colleagues. Their aim was to achieve equality with other, longer-established specialities, both in terms of professional status and pay. Macintosh and Archibald Marston, first dean of the FARCS and director of the anaesthetics department at Guy's Hospital, London, were closely involved in negotiations with the MoH over the status of anaesthesia under the NHS. Macintosh later

¹⁹⁸ RCOG (1944), p17.

¹⁹⁹ The Rushcliffe Committee was established by the MoH in October 1941 to investigate the pay scale and working conditions of the British nursing profession. Drafts of its report, and correspondence relating to its activities, are held in TNA MH 55/891.

²⁰⁰ Leap & Hunter (1993), p203. Their work, and my own research, suggest no specific reasons for the failure of this initiative, apart from the general factors identified earlier in this chapter.

recalled that he and Marston based their claim to parity of pay on the argument that the medical profession would fragment if consultants in different clinical specialities received different rates of pay.²⁰²

This position received support from the RCS, but was opposed by the BMA, whose GP anaesthetist members suspected they would be excluded from practising anaesthesia if it was reorganised as a hospital-based speciality.²⁰³ The BMA's concerns were reinforced by the AAGBI's emphasis on anaesthetists as specialist, hospital-based practitioners. In its submission on anaesthesia to the MoH the AAGBI defined a 'specialist anaesthetist' as a practitioner possessing the DA, and who had held a full-time hospital appointment or equivalent military position for five years or more.²⁰⁴ This definition partly reflects the large number of military 'specialist anaesthetists', who had practised anaesthesia in the Army for several years and who now wanted to pursue civilian careers in this field.

At the introduction of the NHS in July 1948 anaesthetics was given parity with other hospital specialities: full consultant status, equal pay and a hierarchy of junior training posts. Boulton and Beinart view this as the point at which anaesthesia became a fully independent clinical speciality.²⁰⁵ But the professional status of anaesthesia, even as a hospital-based clinical speciality, was widely seen to depend upon the establishment of a new fellowship-level qualification for consultant anaesthetists. From the mid-1940s the MoH had begun to express concerns over the low academic standard of the DA.²⁰⁶ The DA was increasingly seen as a general interest diploma, suitable for GPs and junior hospital staff as an indication of their commitment to the subject, but not setting a sufficiently high standard for consultant practice.

²⁰¹ Webster (2002), pp17, 38.

²⁰² See Macintosh's comments in 'Prof Robert Macintosh interviewed by James E Eckenhoff', Wood Library-Museum of Anaesthesia, 1983, VHS, 26min. Marston had previously been president of the RSM section of anaesthetists (1941-44) and was then president of the AAGBI (1944-47). He was elected first dean of the FARCIS at its foundation in March 1948, and held this post until his retirement from clinical practice in 1956. See Boulton (1999), p100. On Marston, see Robinson RHOB, Le Fanu WR. (1970) *Lives of the fellows of the Royal College of Surgeons of England, 1952-1964*. Edinburgh: E & S Livingstone, p278.

²⁰³ Boulton (1999), p89. On the wider conflicts between Aneurin Bevan and the BMA, see Rintala M. (2003) *Creating the National Health Service: Aneurin Bevan and the medical lords*. London: Frank Cass.

²⁰⁴ On the AAGBI's role in negotiations over the status of anaesthetists under the NHS, see Boulton (1999), p89.

²⁰⁵ Ibid., pp89-94; Beinart (1987), pp61-65.

²⁰⁶ Boulton (1999), p96.

The response of the AAGBI and the RCS was to set up a new faculty within the RCS: the FARCS. This new body would devise and maintain a new curriculum and a new two-part examination for the DA, based on the RCS fellowship exam.

Soon after the foundation of the FARCS in March 1948, its members decided that an entirely new qualification would be the most appropriate response to the new status of anaesthetics and its practitioners. In 1953 the FARCS awarded its first fellowship – the FFARCS. The DA, meanwhile, was maintained and formalised as a preparatory qualification for the FFARCS. As with the DA in 1935, an attempt was made to universalise the new qualification and hence its new status: any anaesthetist who received the DA before 1955 was also awarded the FFARCS without having to take the new exam. The FFARCS became the standard qualification for consultant anaesthetists in England and Wales throughout the period of this study.²⁰⁷

This increase in the status and number of anaesthetists under the NHS mirrored the expansion of academic anaesthetics research and teaching in Britain. Between 1946 and 1959 British teaching hospitals established ten new departments of anaesthesia, each with at least one readership in anaesthetics.²⁰⁸ By 1948 Macintosh had been joined by three new British professors of anaesthesia: William Mushin at the Welsh National Medical School, Cardiff; Edgar Pask at Durham; and John Gillies at Edinburgh.²⁰⁹ The immediate consequences of this shift for obstetric anaesthesia and analgesia are difficult to discern. Research presented in chapters 3, 4 and 5 suggests that the impact of the NHS on obstetric anaesthesia and analgesia first became apparent in the 1950s, with continuing research into new techniques of obstetric analgesia for use by unsupervised midwives, and the reorganisation of the Confidential Enquiries into Maternal Deaths.²¹⁰

²⁰⁷ A separate Royal College of Anaesthetists (RCA), and a separate fellowship qualification (the FRCA) for its members, was established in 1988. On the history of the RCA, see its website: www.rcoa.ac.uk/index.asp?PageID=21, accessed 23 Jan 2007.

²⁰⁸ Boulton (1999), p127.

²⁰⁹ Ibid., p127. On Pask, with particular reference to his research on high-altitude survival during the Second World War, see Inkster JS, 'Pask, Edgar Alexander (1912–1966)', *ODNB*. On Mushin, see Boulton (1999) p597. On Gillies, see Helliwell PJ. (1976) Obituary. John Gillies. *Anaesthesia* 31: 1311–1312.

²¹⁰ The publication of textbooks on this subject suggests that most interest in obstetric anaesthesia and analgesia in the immediate post-war period came from the US. Two members of the NDA, EH Seward and R Bryce-Smith, published what appears to have been the first British textbook on this subject in 1957. See Seward EH, Bryce-Smith R. (1957) *Inhalation analgesia in childbirth*. Oxford: Blackwell Scientific Publications.

2.2. The hospitalisation of birth in England and Wales 1945-75.

By the late 1940s many obstetricians, anaesthetists and government officials in the CMB and MoH were coming to see hospital birth as (for better or worse) the future of maternity care in England and Wales. This was reflected not only in the RCOG's advocacy of hospital birth as a safe and effective way of delivering healthy babies, but also in the development of anaesthesia as a hospital-based clinical speciality; the declining number and status of domiciliary midwives; and, more broadly, in the emphasis on hospital care within the NHS. In the next three decades, the hospitalisation of birth became a clinical, political and demographic reality. The final section of this chapter will outline the development and expansion of hospital birth as British governmental health policy, and the parallel changes in the national demographics of birth in England and Wales between 1945 and 1975. As chapter 1 noted, a major problem in writing the history of this subject is the absence of comparative data on changing popular attitudes towards hospital birth. The analysis presented in this section does not seek to disregard the perspectives of mothers, midwives and women obstetricians, but rather to provide a tightly focused governmental and medical context for material presented in later chapters.

Although the MoH had adopted a policy of aiming to hospitalise a higher proportion of births at the foundation of the NHS in 1948, the MoH and RCOG disagreed over the actual target proportion. Webster argues that MoH health policy on the hospitalisation of birth between 1948 and the early 1970s can be seen as a gradual acquiescence to the RCOG's insistence on a high proportion of hospital births.²¹¹ In its 1944 report the RCOG called for the hospitalisation of 70% of births in Britain. Though the MoH had accepted the RCOG's general policy on this subject, they initially adopted a lower target of 50% and, in a meeting with CMB representatives in October 1950, MCW officials agreed to continue promoting home birth.²¹² Official support for home birth was, they acknowledged, likely to meet with much opposition, especially from the RCOG, but they believed that in the long run the final decision would rest with mothers themselves. The RCOG, however, continued to press for official endorsement of a higher

²¹¹ Webster (2002), pp117-118.

²¹² 'Trend of maternity services. Minutes of meeting', 19 Oct 1950, TNA MH 134/75.

proportion of hospital birth. In a 'lively discussion' with Dr Dorothy Taylor, then SMO of MCW, in December 1950, Professor Hilda Lloyd, then president of the RCOG, argued that 'all maternity services should be based on and run from the hospital'.²¹³ Taylor replied that such a service was neither practical nor acceptable.

In 1954 the RCOG again increased their own target figure for hospital birth, this time to 100%.²¹⁴ Both the MoH and RCOG agreed to allow the MoH maternity services committee, established under the chairmanship of the Earl of Cranbrook in 1956 and including both MCW medical officers and fellows of the RCOG, to adjudicate on this issue.²¹⁵ The Cranbrook report (1959) adopted the RCOG's earlier recommendation of 70% hospital birth, and also argued for the hospitalisation of antenatal care and the phasing out of the 'home confinement grant' (an extension to the basic maternity benefit covering the extra costs of home birth).²¹⁶

The RCOG supported the Cranbrook report's conclusions, but continued to call for the adoption of 100% hospital birth as governmental policy.²¹⁷ Further pressure led to the establishment of the MoH standing maternity and midwifery advisory committee (SMMAC) in 1967 under the chairmanship of Sir John Peel, then President of the RCOG. This committee also included representatives from MCW and the RCOG. Its brief – 'to consider the future of the domiciliary midwifery service and the question of bed needs for maternity patients and to make recommendations' – was tightly focused on the hospitalisation of birth.²¹⁸ Published in 1970, the Peel report adopted the RCOG's recommendation of 100% hospital birth and again called for the centralisation and unification of maternity care within local hospitals. All antenatal care, deliveries and postnatal care should, it argued, be delivered from the hospital under the supervision of consultant-grade clinical staff. Following the recommendations of the MoH's Salmon report (1966) on the administrative structure of hospital nursing, the Peel report also

²¹³ Dr Dorothy Taylor, MCW, MoH, 'Note of a meeting, 21 Dec 1950', 2 Jan 1951, TNA MH 134/75. On Lloyd, see Chancellor VE, 'Lloyd, Dame Hilda Nora (1891–1982)', *ODNB*.

²¹⁴ Webster (2002), p117.

²¹⁵ The maternity services committee was established in response to the Guillebaud report (1956) on the cost of the NHS. See *ibid.*, pp32-33. Papers relating to its investigation and report are held in TNA MH 55/2341.

²¹⁶ 'Cranbrook report: action on recommendations', Mar 1959, TNA MH 55/2341.

²¹⁷ Webster (2002), p117.

²¹⁸ SMMAC. (1970) *Report of the sub-committee on domiciliary midwifery and maternity bed needs (Peel report)*. London: HMSO, para 3.

called for the erosion of formal distinctions between midwifery and maternity nursing, effectively removing the hospital midwife's powers as an independent practitioner and bringing her under the joint authority of ward matrons and consultant obstetricians.²¹⁹ Under further pressure from the RCOG, the MoH endorsed the Peel report's conclusions.

By the early 1970s, the MoH had adopted as its official policy the hospitalisation of all births in England and Wales; the centralisation of all maternity services in local hospitals; the erosion of hospital midwives' status as independent practitioners, professionally distinct from maternity nurses; and in effect (though this was never overtly discussed in the Cranbrook, Salmon or Peel reports) the end of domiciliary midwifery. Webster, no uncritical apologist for MoH policy in this period, argues that in this case the MoH was 'reluctantly dragged along with RCOG dogma', which 'notwithstanding the absence of supportive evidence, successfully convinced the public that childbirth outside hospital was unsafe'.²²⁰

In summary, the hospitalisation of birth in Britain after the end of the Second World War was a process supported and actively campaigned for by the obstetric profession in the form of the RCOG, without the unqualified approval of the MoH. Subsequent chapters of this thesis suggest, however, that it must be seen in the wider context of the hospitalisation and centralisation of British medicine under the NHS, and cannot be limited to a simple and brutal drive to 'professionalisation' on the part of obstetricians.²²¹ The lack of comparative data on popular attitudes to hospital birth, and the narrow perspective provided by the sources used, must also be taken into consideration when assessing this process. Its effects on the demography of birth in England and Wales cannot be stated with certainty, but a fairly clear trend can be observed in national statistics on the location of birth in this period. The proportion of births taking place in hospital began to increase in the period immediately after the publication of the Cranbrook report in 1959, and continued to increase throughout the 1960s and early 1970s. The graphs presented and discussed below are based on the data published in the second volume of

²¹⁹ Ibid., paras 280, 282, 286. For the Salmon report's conclusions on midwifery, see CSNSS. (1966) *Report of the committee on senior nursing staff structure (Salmon report)*. London: HMSO, chap 7.

²²⁰ Webster (2002), p118.

²²¹ Webster points out that state mental health services in England and Wales in this period underwent an equally rapid 'de-hospitalisation', despite a general governmental emphasis on the hospitalisation and centralisation of NHS services. See *ibid.*, pp54, 121-124.

Alison Macfarlane and Miranda Mugford's *Birth counts* (2000), a collection of statistical information from governmental sources relating to maternity and birth in Britain.²²²

Section 2.1.2. noted two caveats relating to the use of statistical data by historians, and these also apply here. First is the anachronistic impression of 'complete knowledge' that the possession of a run of statistical data for a particular period can create. Information in this form may not have been available to any or all of the historical actors in the period under consideration. Second is the assumption that numerical data are an interpretatively 'neutral' source, leading to analyses of content without regard for context – the production of the statistical results, their initial and subsequent interpretations, and so on. With this in mind, the aim of this section is simply to identify and describe the major national demographic trends in birth in this period, in order to provide a framework for the historical case-studies presented in later chapters.

Figure 1. Numbers of live births registered per year in England and Wales, 1945-1975.²²³

²²² Macfarlane & Mugford (2000).

²²³ Ibid., vol 2, pp3-4.

These data can be described in fairly straightforward terms, though it is perhaps difficult to discern a recognisable trend or pattern. The much-discussed 'baby boom' after the end of the Second World War peaked in 1947, with 881,000 births.²²⁴ By the mid-1950s the numbers of live births per year in England and Wales had returned approximately to their pre-'boom' level of around 675,000 live births per year. A further steady increase between the mid-1950s and the mid-1960s took the numbers of live births back almost to the peak of the 'baby boom', but a slow decline between the mid-1960s and the early 1970s, and a steeper decline in the early 1970s, meant that in 1975 the number of live births in England and Wales (603,000) was lower than it had been in 1945 (680,000).

Figure 2. Location of birth in England and Wales by total numbers of births per year 1954-1975.²²⁵

²²⁴ Historians of the 'baby boom' have tended to focus on the US. See, for example, Macunovich DJ. (2002) *Birth quake: the baby boom and its aftershocks*. Chicago: University of Chicago Press.

²²⁵ Macfarlane & Mugford (2000), vol 2, pp522-524.

Figure 3. Location of birth in England and Wales by percentage of total births 1954-1975.²²⁶

Information on this subject was not published before 1954.²²⁷ Clear trends can, however, be seen in the post-1954 data, both in Figure 2, which shows the total numbers of births in each type of institution, and in Figure 3, which shows the percentage of total births taking place in each type.

Both the proportion and the total number of births taking place in non-NHS hospitals declined, slowly but consistently, from around 31,000 births (4.5% of the total) in 1954 to 9,500 births (1.6% of the total) in 1975. The numbers of births in NHS hospitals, however, increased sharply and fairly steadily after 1954, from 408,000 in 1954 to a peak of 692,000 in 1971. Figure 3 suggests that the decline after 1971 may simply have reflected the parallel decline in the numbers of births, as the percentage of total births taking place in NHS hospitals increased steadily from the early 1960s onwards, from 61.3% in 1960 to more than 95% in 1975.

An equally clear trend is visible in the numbers and percentages of home births in England and Wales. The numbers of home births increased slightly between 1954 and the early 1960s,

²²⁶ Ibid., vol 2, pp527-528.

reaching a peak of 270,000 in 1960. This may again reflect the increasing numbers of births in this period, as the percentage of births at home remained roughly constant. Both the numbers and proportion of home births fell steadily after this point, reaching 19,504 (3.2% of the total) in 1975.

Figure 4. Overall infant and maternal death rates in England and Wales 1945-1975.²²⁸

Once again, fairly clear trends can be discerned within these data.²²⁹ Between 1945 and 1975 the overall infant death rate declined gradually, from 47 per thousand live births in 1945 to 16 per thousand live births in 1975. The maternal death rate fell rapidly between 1945 (147 per 100,000 total births) and the early 1960s (31 per 100,000 total births in 1960), then more slowly, but still steadily, to 11 per 100,000 total births in 1975.

²²⁷ Macfarlane and Mugford state that 'tabulations [of this data] were not done routinely before 1954'. See *ibid.*, vol 1, p220. I have found no evidence in the MoH archives to challenge this statement.

²²⁸ *Ibid.*, vol 2, pp74-75, 602-605.

²²⁹ Throughout this period, 'infant death' was defined for the purposes of statistical enquiry as the death of an infant within a year of its birth, and 'maternal death' as the death of a mother during pregnancy, delivery or within a year of delivery. On the development of these definitions, see Loudon (1992), chap 2, esp pp19-28. See also section 5.1.

Figure 5. Intervention in hospital birth in England and Wales 1953-1975.²³⁰

As with data on the hospitalisation of birth, information on the subject of clinical intervention in hospital birth was not published before the mid-1950s. Data from the mid-1950s onwards reveal parallel trends in the percentages of hospital deliveries by caesarean section and by instrumental intervention. Both almost tripled over the period in question. The percentage of deliveries by caesarean section rose, from 2.2% of all hospital deliveries in 1953 to 5.8% in 1975. The percentage of deliveries involving instrumental intervention rose, from 3.7% of all hospital deliveries in 1953 to 12.6% in 1975.

What conclusions can be drawn from these five graphs? Patterns in the total numbers of live births in England and Wales are difficult to discern. In every other data set, clearer trends can be identified. Between the early 1960s and the mid-1970s, the proportion of births taking place in NHS hospitals increased steadily, from around 60% to more than 95%, while the proportion of births taking place at home fell steadily, from around 30% to less than 4%. Maternal and infant death rates fell consistently throughout the period, infant death rates fairly steadily, maternal death rates drastically between 1945 and the early 1960s, but then more slowly between the mid-1960s and 1975. The percentage of hospital births involving instrumental intervention or

²³⁰ Macfarlane & Mugford (2000), vol 2, p530.

caesarean section rose steadily, almost tripling between the mid-1950s and 1975. In broad terms, these trends appear to mirror the shifts in governmental health policy outlined in section 2.1. Later chapters relate this correlation to events in the history of obstetric anaesthesia and analgesia in this period.

2.3. Conclusion: contexts for obstetric anaesthesia and analgesia in England and Wales 1945-1975.

Between 1900 and the early 1950s a series of developments in obstetrics, midwifery, anaesthesia and governmental health policy established a framework in which subsequent developments in obstetric anaesthesia and analgesia in England and Wales took place. This framework was itself situated within a wider context – the hospitalisation and centralisation of state healthcare under the NHS – and comprised three inter-related narratives. The next four chapters use these narratives to trace developments in obstetric anaesthesia and analgesia in England and Wales between 1945 and 1975.

First, the hospitalisation of birth. After the end of the First World War, public, official and medical concern over maternal mortality rates, and MCW's growing interest in this field, led the MoH to initiate an enquiry into the causes of maternal mortality – the DCMMM. For clinical expertise on the subject of obstetrics, the DCMMM turned to the newly established BCOG. The BCOG's own policy of improving obstetric practice (and the professional status of obstetricians) by establishing a hospital-based national maternity service informed the DCMMM's method and conclusions, as set out in its interim and final reports. In these documents, concern over the safety and efficiency of obstetric anaesthesia and analgesia was deployed as a strong argument for taking birth out of the hands of domiciliary midwives and entrusting it to specialist hospital-based clinicians. In wider terms, the BCOG claimed that national maternal mortality statistics provided empirical evidence of the safety and superiority of hospital birth. In subsequent reports the BCOG / RCOG elaborated its policy of hospitalising 70% of British births, gaining (guarded) support from the rest of the medical profession and the MoH. The DCMMM's approach to investigating maternal deaths, and the structures it

established for the collection of individual reports on this subject, remained in place after the DCMMM's dissolution in 1935.

The MoH adopted a policy of increasing the proportion of births taking place in hospital at the foundation of the NHS in 1948. While this chapter has not explored popular attitudes towards hospital birth, it shows that debates persisted within central government and medical organisations over what actual proportion of births should take place in hospital. The MoH and CMB preferred a lower proportion, while the RCOG pressed for a higher proportion. Between the early 1950s and the early 1970s, the MoH gradually acquiesced to the RCOG's demands. The MoH's Cranbrook report (1959) supported the RCOG's position, calling for the hospitalisation of 70% of British births. Following the Peel report (1970), which called for the hospitalisation of all British births and the centralisation of all maternity services in local hospitals under the supervision of consultant obstetricians, the MoH adopted 100% hospitalisation of birth as its official policy. This shift appears to have been reflected in the demographics of birth in England and Wales in this period. Between the early 1960s and the mid-1970s the proportion of all births taking place in NHS hospitals increased from around 60% to more than 95%.

Second, ongoing debates about the status and role of midwives. The Midwives Act, 1902, placed British midwifery within a statutory and regulatory framework, overseen by the CMB at a national level and by MOsH and LSAs at a local level. This framework included regulations governing the provision of pain relief in childbirth by midwives. Unsupervised midwives, which in practice generally meant domiciliary midwives, were permitted (within strictly defined limits) to administer analgesia to women giving birth at home. In this way, the provision of obstetric analgesia to most British women was placed under central medical and administrative surveillance. At the same time, the CMB, MoH, NBTF and other organisations interested in maternal care began to note a general decline in the status of the midwife as an independent practitioner, and a corresponding decline in the number of midwives in practice. The NBTF in particular identified support for domiciliary midwives as the best way of achieving its aim of taking new developments in the maternity services to poor mothers. These organisations adopted a policy of trying to raise the status of midwives by improving their capacity to relieve

pain in childbirth. They developed a procedure for testing and approving new methods of analgesia, based on clinical trials conducted under the authority of senior fellows of the BCOG.

Though the CMB and NBTf claimed that the approval of the Minnitt machine in 1937 was a major step forward in improving the status of midwives, the number of practising midwives continued to fall throughout the Second World War. This continuing decline informed post-Beveridge report debates over the reorganisation of maternity services under the NHS. But these debates were not settled by the creation of the NHS. Under the tripartite health service structure established in 1948, midwifery was divided between two administrative units. Hospital midwives were employed by regional hospital boards (RHBs) and their successors, while domiciliary midwives fell into 'the small and miscellaneous rump of local authority-administered health services'.²³¹ And the NHS established no clear basis for a professional relationship between hospital midwives and consultant obstetricians or anaesthetists. All continued to work within ill-defined and intersecting professional spheres. This, along with the hospitalisation of birth in this period, had two consequences for midwifery in England and Wales. It blurred the distinction between hospital midwives and maternity nurses, effectively reducing the professional status of the former as independent practitioners. And it led to the near-elimination of domiciliary midwives as a professional group.

Third, the establishment of anaesthesia as a hospital-based clinical speciality. Beinart and Boulton identify five factors defining this period as one of professionalisation within British anaesthesia. Assessing the impact of these factors on obstetric anaesthesia and analgesia in this period is not straightforward, and research presented in this chapter suggests that, before the Second World War, it is not possible to construct a definition of 'obstetric anaesthesia' or 'obstetric analgesia' in terms of a single, distinct body of knowledge, practices or practitioners. In so far as they existed, 'obstetric anaesthesia' and 'obstetric analgesia' were an overlapping set of skills and disciplines shared between several groups of practitioners.

²³¹ Webster (2002), p20.

Chapter 3. 'A radical alteration in the midwifery situation':

obstetric analgesia and health service reform 1945-1949.²³²

In January 1949, barely six months after the establishment of the NHS in England and Wales, Colonel James Hutchison, Conservative MP for Glasgow, entered the parliamentary ballot for the opportunity to put forward a private members' bill.²³³ He chose neither the abolition of foxhunting nor the regulation of British hairdressers, subjects put up at the same time by his Conservative colleagues, but the provision of pain relief to all women in childbirth. Hutchison's Bill – the Analgesia in Childbirth Bill, 1949 – remains the only attempt in British history to give mothers the legal right to pain relief in childbirth. Williams provides a short account of the NBTF's involvement in the Bill.²³⁴ Her perceptive examination of the relationship between the NBTF and the 1945 Labour government is adopted here as one context for the debates over the Bill. But by focusing on the NBTF's perspective, Williams sidelines the political dimensions of the Bill's failure and its relationship to wider controversies over the early NHS.

This chapter presents an analysis of archival material relating to the NBTF, CMB and MoH's involvement with the Bill. An account of the Bill's rise and fall is used here to assess the impact of the NHS on debates over state involvement in maternity care, the provision of obstetric analgesia and the status of midwives. In the two decades after the end of the Second World War, government bodies, voluntary organisations with an interest in maternity care and interested individuals increasingly came to focus their attention on midwives as providers of pain relief in childbirth. As section 2.1 showed, this interest in midwifery represented the culmination of four decades of concern over falling numbers of entrants to midwifery and a perceived decline in the status of the midwife. For its sponsors, the NBTF, the Bill provided an opportunity both to improve the availability of analgesia to mothers in childbirth and to reassert their dominance as

²³² Quoted from James P Dodds, assistant secretary, MCW, MoH, to Sydney Wilkinson, under-secretary, MoH, 14 May 1946, TNA MH 55/1596.

²³³ I have been unable to locate any further information on Hutchison.

²³⁴ Williams (1997), pp167-170.

leaders in the field of analgesia research. But for Aneurin Bevan, the Labour Minister of Health, the Bill represented both a (concealed) Conservative attack on the newly socialised British medical system and a further burden on the already overtaxed coffers of the new NHS. Bevan's opposition to, and eventual defeat of, this enormously popular bill found its roots in the Bill's economic and political implications, rather than its clinical or humanitarian consequences.

3.1. The NBTF and the working party on midwifery.

At the end of the Second World War the NBTF Executive Committee found itself in a difficult position.²³⁵ A period of quiescence during the war had deprived it of much of its public presence, and consequently the donations on which its activities depended had fallen almost to nil. In October 1946 its chairman, AJ Espley, noted that the savings account from which Minnitt machines were purchased was now 'comparatively negligible', and that even if the present, comparatively modest rate of purchase and donation were maintained, the NBTF would soon find itself 'in the process of winding itself up'.²³⁶ Though the Executive Committee maintained its connections in the House of Lords and the medical profession, its governmental influence had waned. One of the Executive Committee's leading activists – Lady Juliet Rhys-Williams, who had replaced Lucy Baldwin as vice-chairman – tried to enter the Commons as a Liberal MP in the 1945 general election, but was defeated overwhelmingly by a Labour candidate.²³⁷ This specific case illustrates a general point. It seems hardly necessary to point out the problems faced by this socially elite, voluntarist-minded organisation, intimately linked to the pre-war Conservative party, in trying to establish a working relationship with Clement Attlee's 1945 Labour administration – arguably the most radical British government of the twentieth century.

Faced with these problems, and with the establishment of the NHS close at hand, the Executive Committee shifted the balance between its public and private campaign strategies. Unable to influence governmental policy directly, it began to focus on its contacts in the

²³⁵ The analysis presented in this paragraph is a modified version of that in Williams (1997), pp24-28.

²³⁶ NBTF Executive Committee meeting minutes, 9 Oct 1946, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

²³⁷ On Rhys-Williams, see Nichol W, 'Williams, Dame Juliet Evangeline Rhys (1898-1964)', *ODNB*.

national popular press and BBC, hoping to replace discreet personal pressure with widespread public concern. Elite social networks would not be discarded, but would where necessary be replaced by more 'visible' tactics, previously used only in public campaigns: questions in the Lords and Commons, press campaigns, public meetings, well-publicised deputations to ministers.²³⁸ The Executive Committee recruited a number of young, well-known clinicians, such as Josephine Barnes, recently appointed to a consultant post at Queen Charlotte's Maternity Hospital.²³⁹ It also began to reassess its funding priorities, moving away from the supply of equipment to midwives, now seen as the responsibility of the state, and towards research into new methods of analgesia for use by unsupervised midwives.²⁴⁰ In the autumn of 1945 the Executive Committee arranged sponsorship for another RCOG investigation. This would examine the safety and efficacy of the volatile agent trichlorethylene, marketed by Imperial Chemical Industries (ICI) under the trade name 'Trilene'.²⁴¹ By adopting a new rhetorical strategy in response to the altered political climate – the provision of pain relief in childbirth as the moral duty of a socialised medical system – and by using a combination of press campaigns and well-publicised research projects to strengthen interest in midwifery amongst statutory bodies, the NBTF hoped to regain what it saw as its rightful position as the leader of advances in British maternal care.

Following the publication of the Beveridge report, the MoH had established a working party on nursing to clarify the position of nurses under a putative national health service.²⁴² By the early months of 1946 this working party had completed a draft report. The apparent success of

²³⁸ This strategy is set out in 'NBTF report on gas / air analgesia', 1945, WTL SA/RNI/H.25. For an example of the NBTF's approach to campaigns in the popular press in this period, see Edwards A. (1946) Mothers should make a fuss. *Daily Express* (12 Feb): 25.

²³⁹ On Barnes, see Blyth M, 'Barnes, Dame (Alice) Josephine Mary Taylor (1912-1999)', *ODNB*.

²⁴⁰ After the establishment of the NHS, the NBTF Executive Committee rejected all applications for analgesic apparatus from local nursing associations, on the grounds that 'the district maternity is now under the National Health Service'. See, for example, NBTF Executive Committee meeting minutes, 23 Jul 1957, in NBTF general minutes book, Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6. They continued to donate analgesic equipment to charitable organisations working outside the NHS, such as the Salvation Army. See, for example, NBTF Executive Committee meeting minutes, 24 Nov 1958, in NBTF general minutes book, Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6.

²⁴¹ Clinically pure trichloroethylene used for anaesthesia or analgesia was widely known as 'Trilene' in the medical and popular press at the time and in archival material relating to this subject. I follow this convention in this chapter. On the RCOG's Trilene investigation, see section 4.1.

²⁴² The working party on nursing is mentioned in correspondence relating to the later working party on midwifery. See, for example, Dodds to Wilkinson, 14 May 1946, TNA MH 55/1596. I have been unable to locate any archival material relating directly to it.

this mode of investigation led James Dodds, an assistant secretary in MCW and the MoH's representative on the working party, to propose a similar inquiry into midwifery. Dodds argued that structural reform, rather than short-term publicity, was required.²⁴³ MCW officials were acutely aware of 'the need for walking with all delicacy' when dealing with professional boundaries in obstetrics and midwifery, and deputed a member of the earlier working party on nursing to sound out the CMB and the College of Midwives.²⁴⁴ A further meeting with representatives of the RCOG, CMB and the College of Midwives on 9 September 1946 agreed that a small working party, directed by a larger steering committee of experts, was the most appropriate arrangement. They decided to invite 'a 'sensible woman' with some experience of organisation or public work... possibly a headmistress or principal of one of the Women's Colleges' to lead the inquiry.²⁴⁵

Bevan, on the other hand, took a close interest in the working party on midwifery.²⁴⁶ Wartime shortages of rubber and steel had, by 1947, increased the waiting time for a new Minnitt machine to two months.²⁴⁷ After the end of the war Bevan had received many letters from members of the public, mainly women, complaining about the poor provision of pain relief in childbirth, and asking if this service was to be improved under the NHS.²⁴⁸ His standard reply to these letters cited 'wartime restrictions', and the on-going shortage of midwives, as factors delaying a governmental response.²⁴⁹ Sir Philip Morris, Bevan's own nominee for the chairmanship of the steering committee, pleaded other commitments.²⁵⁰ But MCW's alternative candidate – Mary Stocks, principal of Westfield College, London – proved highly acceptable to Bevan, and accepted the post in February 1947.²⁵¹ Given the imminent establishment of the

²⁴³ Dodds to Wilkinson, 14 May 1946, TNA MH 55/1596.

²⁴⁴ Sir Robert Wood, deputy secretary, Board of Education, to Sir Arthur Rucker, deputy secretary, MoH, 22 Jun 1946, TNA MH 55/1596.

²⁴⁵ 'Minutes of a meeting at the MoH', 9 Sept 1946, TNA MH 55/1596.

²⁴⁶ Bevan took up his new post as Minister of Health, along with the rest of Atlee's cabinet, in August 1945. See Smith D, 'Bevan, Aneurin (1897–1960)', *ODNB*.

²⁴⁷ T. Fife-Clark, MoH, to Mrs Louise Morgan, 1 Jan 1947, TNA MH 134/144.

²⁴⁸ Examples of this correspondence are held in TNA MH 134/144. See, for example, Mrs Adelaide Bennett, Stafford, to Aneurin Bevan, Minister of Health, 29 Aug 1945.

²⁴⁹ 'Draft text of letter', May 1945, TNA MH 134/144.

²⁵⁰ Bevan to Sir Philip Morris, vice-chancellor, Bristol University, 2 Jan 1947, and Morris to Bevan, 11 Jan 1947, TNA MH 55/1595.

²⁵¹ On Stocks, see Sutherland D, 'Stocks, Mary Danvers, Baroness Stocks (1891–1975)', *ODNB*.

NHS, Sir Arthur Rucker, deputy permanent secretary to the MoH, argued that speed was of the essence.²⁵² He initially gave the working party six months in which to complete its investigation.

Though the NBTF is not mentioned in correspondence relating to the establishment of the working party on nursing, other archival sources suggest that it was being kept informed of these developments. At a meeting of the Executive Committee on 12 September 1946, Rhys-Williams reported that she had spoken privately with MoH officials and had offered to fund an investigation into the shortage of midwives, but had been advised of the forthcoming working party on midwifery.²⁵³ The Executive Committee resolved to monitor the working party's activities.

Dodds had warned against the 'vicious circle' of press publicity, and the working party on midwifery appears to have kept a low profile in its investigations.²⁵⁴ Despite this, interest from the popular press was immediate. In January 1947 the *News Chronicle* published an interview with Elam in his role as anaesthetist to the Wellhouse Hospital.²⁵⁵ He criticised the Labour government and medical establishment for taking little interest in the Minnitt machine, praised the NBTF and called on the working party on midwifery to make concrete recommendations for improving the provision of pain relief by midwives. But he made no mention of his own association with the NBTF. After his initial contact with the NBTF in the early 1930s, Elam had continued to work on new methods of analgesia for midwives.²⁵⁶ He also became a friend and regular correspondent of Rhys-Williams, despite (or perhaps because of) his lurid epistolary

²⁵² Rucker to Mary Stocks, principal, Westfield College, 10 Apr 1947, TNA MH 55/1595.

²⁵³ NBTF Executive Committee meeting minutes, 12 Sept 1946, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

²⁵⁴ A draft advertisement with accompanying manuscript notes in the papers of the working party on midwifery suggests that the announcement of its foundation may have been restricted to a small paragraph in the *Medical Officer*, the in-house journal for MOsH. See draft text of advertisement, 1946, TNA MH 55/1594.

²⁵⁵ [Anon.]. (1947a). Analgesic machine is a doorstep. Doctor accuses hospitals. *News Chronicle* (7 Jan): 8.

²⁵⁶ On Elam's continuing research at Barnet, see sections 4.2 and 4.4. A survey of British medical journals in this period suggests that he did not publish any formal accounts of his anaesthetics research before the Second World War.

style: 'I hope there is a special hereafter for the Ministry of Health and the Central Midwives Board, something with boiling oil in it'.²⁵⁷

Throughout the 1940s and 1950s Elam wrote frequently and at length to Rhys-Williams, on a range of subjects.²⁵⁸ He bemoaned the apathy he observed in his local midwives, cited the dangers of regional analgesia in childbirth and warned of impending disaster when midwifery services began to operate under the NHS. He also encouraged Rhys-Williams in her unsuccessful bid to enter parliament in 1945, and attended her daughter in her confinements.²⁵⁹ Through letters, interviews and articles, Elam and Rhys-Williams ran a vigorous press campaign for wider access to analgesia in childbirth throughout the late 1940s and 1950s. Unlike the NBTF Executive Committee, Elam had not been forced to shift his views in response to the 1945 Labour landslide. A staunch Conservative, he argued that 'our lot' had abandoned the country to the 'horrible socialists', who were destroying effective, personalised maternity care.²⁶⁰

As his early work on the Minnitt machine suggests, Elam took a particular interest in new techniques of obstetric analgesia. Following his article in the *News Chronicle*, he sent a copy of a booklet he had written on the subject of analgesia to the Executive Committee. *The present position of analgesia in obstetrics* was a historical survey of attempts to relieve the pain of childbirth, from Genesis via James Young Simpson to Rhys-Williams (whose name should, he argued, 'be remembered in honour and gratitude by all women').²⁶¹ Elam also took passing swipes at the RCOG and CMB, for refusing to approve new analgesic apparatus for use by midwives. Despite some concerns about the wisdom of attacking other organisations at a time when their support was needed to achieve the NBTF's aims, the Executive Committee adopted

²⁵⁷ Dr John Elam to Lady Juliet Rhys-Williams, NBTF, 27 Jul 1946, WTL SA/NBT.F.10/1/2. Rhys-Williams' mother, Elinor Glyn, was, amongst other things, a romantic novelist. Elam's letters are perhaps reminiscent of Glyn's gaudy prose style. See, for example, Glyn E. (1900) *The visits of Elizabeth*. London: Duckworth.

²⁵⁸ Elam's correspondence with Rhys-Williams is held in WTL SA/NBT.F.10/1/2.

²⁵⁹ On Rhys-Williams' parliamentary ambitions, see Elam to Rhys-Williams, 5 Aug 1944, WTL SA/NBT.F.10/1/2. On Elam as obstetrician to Rhys-Williams' daughter, see NBTF Executive Committee meeting minutes, 3 Sept 1947, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

²⁶⁰ Elam to Rhys-Williams, 9 Oct 1959, WTL SA/NBT.H.2/8/1.

²⁶¹ Elam J. (1947). *The present position of analgesia in obstetrics*. Barnet: printed privately. A copy is held in WTL SA/NBT.F.10/1/2.

Elam's booklet as part of their new publicity campaign.²⁶² Plans were drawn up for the distribution of the text to every midwife in England and Wales, via their LSA. Copies were also sent to the CMB and the working party on midwifery.²⁶³

The arrival of Elam's booklet appears to have excited no comment from the working party. At the steering committee's second meeting in June 1947 Stocks presented the detailed structure of the working party's enquiry.²⁶⁴ Evidence would be taken from interested organisations and individuals, and a questionnaire on workload and working conditions would be sent to all 17,000 practising midwives in England and Wales. Although the NBTF was absent from the list of organisations invited to give evidence, the Executive Committee decided to prepare a report specifically on the provision of analgesia in childbirth, and to submit it to the working party.²⁶⁵

As this document was being compiled, another NBTF-related report sparked more public interest in obstetric analgesia. As part of the long-running Royal Commission on population, established before the war to investigate the gradual decline in the British birth-rate, a joint committee of the RCOG and the Eugenics Society's population investigation committee (PIC) had been appointed in 1945 to investigate socio-economic aspects of British maternity care.²⁶⁶ This took the form of a survey of all births in England and Wales in the week of 3 – 9 March 1946. Though the committee did not release its report until the spring of 1948, it published a summary of its findings in June 1947 in the journal *Population Studies*.²⁶⁷ While the authors of this article praised the efforts of the NBTF to secure pain relief for all mothers, they drew attention to great differences in the availability of analgesia to different socio-economic classes.

²⁶² NBTF Executive Committee meeting minutes, 12 Feb 1947; 12 Mar 1947; 14 May 1947; in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

²⁶³ Although the CMB privately objected to some of Elam's comments in the booklet, it did not raise a formal complaint with the NBTF. See Doreen V Riddick, secretary, NBTF, to AJ Epsley, chairman, NBTF, 18 Mar 1947, WTL SA/NBT/F.2/4.

²⁶⁴ 'Minutes of second meeting', 12 Jun 1947, TNA MH 55/1594.

²⁶⁵ The list of organisations invited to give evidence to the working party included the RCOG and the CMB. See 'Minutes of third meeting', 4 Dec 1947, TNA MH 55/1594.

²⁶⁶ The PIC was established by the Eugenics Society in 1936 to promote and undertake inquiries into the British population. It included Barnes, Rhys-Williams and Eardley Holland, a fellow of the RCOG and a member of the NBTF Executive Committee. The papers of the joint RCOG and PIC committee are held in the RCOG archive (RCOG T8). On the NBTF and the Eugenics Society, see Williams (1997), pp31-32.

²⁶⁷ RCOG & PIC. (1948) *Maternity in Great Britain: a survey of social and economic aspects of pregnancy and childbirth*. London: Oxford University Press; RCOG & PIC. (1947) *Maternity in Great Britain: a preliminary report of findings*. *Population Studies* 1: 99-113.

Only 8% of mothers giving birth at home under the care of a midwife received any form of analgesia, compared with 48% of those wealthy enough to engage a private medical practitioner. And the situation in hospitals was not much better: analgesia was offered to only 52% of mothers giving birth in hospital.

A breakdown of these findings, published in *The Times* in early July, prompted a letter from Isabel Fletcher, who described herself as a mother of two from Troon.²⁶⁸ She criticised what she saw as the complacency inherent in the maternity services, and looked to the NHS to ensure equality in the provision of pain relief. An editorial in the same issue came out in favour of analgesia for all mothers, subject to expert approval.²⁶⁹ Some implications of the RCOG / PIC survey caused disquiet at the CMB. Roger Fenney, its secretary, sent a circular to his staff, warning of the embarrassment that would be caused if the lack of interest shown by midwives in the CMB's latest analgesia training programme were leaked to 'the less reputable Press'.²⁷⁰

Following Fletcher's letter, interested parties defended their positions in the letters page of *The Times*. Claye rejected her criticisms, citing the risks to mother and baby associated with analgesia, and stressing the importance of bodies such as the RCOG in testing and approving new methods.²⁷¹ Walker defended the non-expert, administrative role of the CMB.²⁷² John Munro Kerr, professor of midwifery at Glasgow University and a member of the committee that produced the RCOG's 1944 report on a national maternity service, advocated the hospitalisation of birth as the only way of guaranteeing safe and effective analgesia.²⁷³ Dr Letitia Fairfield, a medical officer at the LCC, attacked 'certain sections of the Press' for promoting the 'dangerous and futile' demand by mothers for painless childbirth.²⁷⁴ All women had, she argued, to accept a certain degree of discomfort or pain in childbirth. Rhys-Williams provided a brief resume of

²⁶⁸ [Anon.]. (1947b) Maternity survey. Inquiry into reasons for fewer births. Need for wider care and lower costs. *The Times* 50802 (2 Jul): 5; Fletcher I. (1947) Letters. Childbirth. *The Times* 50834 (8 Aug): 5.

²⁶⁹ [Anon.]. (1947c) Editorial. Relief of pain in childbirth. *The Times* 50834 (8 Aug): 5.

²⁷⁰ Roger Fenney, secretary, CMB, circular to CMB officials, 9 Jul 1947, TNA DV 6/6.

²⁷¹ Claye AM. (1947) Letters. Pain in childbirth. *The Times* 50838 (13 Aug): 5.

²⁷² Walker A. (1947) Letters. Pain in childbirth. *The Times* 50839 (14 Aug): 5.

²⁷³ Munro Kerr JM. (1947) Letters. Pain in childbirth. *The Times* 50842 (18 Aug): 5.

²⁷⁴ Fairfield L. (1947) Letters. Pain in childbirth. *The Times* 50846 (22 Aug): 5. Fairfield's personal papers and correspondence are held in WTL GC/193.

NBTF activities in this field, and emphasised its current role in campaigning and research.²⁷⁵

Grantly Dick Read, the leading British proponent of 'natural childbirth', advocated a combination of the latest analgesics and his method of antenatal relaxation techniques.²⁷⁶

Finally, three women wrote to say that, as mothers, they suspected the pain of childbirth might be considered a less intractable problem if male obstetricians had to suffer it.²⁷⁷

One of these three letters came from Dr Mary Lucas Keene, president of the MWF – at this time the only national organisation in Britain for female doctors.²⁷⁸ 'Only married women doctors with children', she argued, could 'speak with authority on the need or otherwise for anaesthetics in childbirth'.²⁷⁹ She announced that the MWF would be carrying out an investigation on this question immediately, and that she had appointed a sub-committee on pain relief in childbirth, chaired by Barnes – also a member of the MWF's Executive Committee.²⁸⁰

3.2. The NBTF and nationalised analgesia.

By November 1947 the NBTF Executive Committee's statement of evidence was ready for submission to the working party on midwifery. Beginning with an assertion of its authority on this subject – 'for nineteen years, during which the services for mothers and babies have been growing up, the Trust has been pioneering in this field' – this document embodied the Executive Committee's new position on analgesia under the NHS.²⁸¹ In its view, midwives would remain at the centre of British birth. But if the standard of maternity care and the status of midwives

²⁷⁵ Rhys-Williams J. (1947) Letters. Pain in childbirth. *The Times* 50850 (27 Aug): 5.

²⁷⁶ Read GD. (1947) Letters. Pain in childbirth. *The Times* 50853 (30 Aug): 5. Read, a Cambridge-trained physician, rejected the idea that childbirth was an inherently painful process. He set out his 'relaxation' method of childbirth in *Natural childbirth* (1933) and *Revelation of childbirth* (1942). After his death in 1959, Read's ideas were taken up by the Natural Childbirth Association (NCA), which established a 'Dick Read school for childbirth' in Surrey in the early 1960s. Correspondence between Prunella Briance, founder of the NCA, and MoH officials are held in TNA MH 134/39 and 134/40. On Read, see Barnett R, 'Read, Grantly Dick', in Bynum WF, Bynum H. (eds) (2007) *Dictionary of Medical Biography*. Westport, Connecticut: Greenwood Press, vol 4, pp1059-1060.

²⁷⁷ See, for example, Jones D. (1947) Letters. Pain in childbirth. *The Times* 50844 (20 Aug): 5.

²⁷⁸ On the history of the MWF, based on material held in WTL SA/MWF, see Hall LA. (1997) 80 years of the Medical Women's Federation. *Medical Woman* 16: 6-9. On the MWF's involvement in the campaign for official registration of woman doctors, see Scott JM. (1988) Women and the GMC: the struggle for representation. *Journal of the Royal Society of Medicine* 81: 164-166.

²⁷⁹ Lucas Keene M. (1947) Letters. Pain in childbirth. *The Times* 50917 (13 Nov): 5.

²⁸⁰ The papers of this committee are held in WTL SA/MWF/D.21.

was to be maintained and improved, 'a revolution in the whole attitude towards motherhood' was required in the form of a 'mothers' charter'.²⁸² By this, the Executive Committee meant an act of parliament giving mothers the statutory right to demand, and midwives the statutory right to provide, pain relief in childbirth at the state's expense. Under this scheme, analgesia in childbirth was to be given all the trappings of nationalised state medicine: state-funded, centrally organised and available on a medical, rather than social or economic, basis. But unlike the RCOG's proposed national maternity service, the 'mothers' charter' would not be linked to the wholesale hospitalisation of birth. The 'safer motherhood committee' – a group comprising Rhys-Williams, Barnes and whichever members of the Executive Committee could attend, and which had previously been responsible for drafting educational pamphlets – met in December 1947 to prepare a draft of a 'mothers' charter' based on the evidence to the working party on midwifery.²⁸³

But the 'mothers' charter' appears to have been abandoned, in favour of a new idea for NBTF press and publicity campaigns.²⁸⁴ At a meeting of the Executive Committee in February 1948, Lady Helen Nutting proposed the idea of a large public meeting on 'painless childbirth'.²⁸⁵ Rhys-Williams organised yet another sub-committee, which quickly drew up a draft structure for the meeting. First, a short keynote speech, probably by Eardley Holland, a former president of the RCOG and another Executive Committee member. Second, a 'brains trust', based on the popular BBC radio discussion programme, comprising four or five experts in the field of analgesia and midwifery who would questions from the audience.²⁸⁶ Nutting offered to approach a friend at the BBC to ask if the meeting could be recorded and broadcast. Publicity was seen to be paramount: 750 tickets and 1500 handbills were printed for free distribution, and a press release drafted.

²⁸¹ 'Evidence to working party on midwifery', Nov 1947, WTL SA/NBT/K.1/3.

²⁸² Ibid., p5.

²⁸³ NBTF safer motherhood committee minutes, 15 Dec 1947, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

²⁸⁴ The only extant draft of the 'mothers' charter', held in WTL SA/NBT/K.1/4, is unfinished, and subsequent papers make no reference to its completion.

²⁸⁵ NBTF Executive Committee meeting minutes, 18 Feb 1948, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

²⁸⁶ On the BBC's 'Brains Trust' and Cyril Joad, its host, see Tomes J, 'Joad, Cyril Edwin Mitchinson (1891-1953)', *ODNB*.

By the end of May Caxton Hall in Westminster and the BBC Outside Broadcast unit were booked.²⁸⁷ The choice of chairman – Dr Charles Hill, secretary of the BMA and the BBC’s ‘radio doctor’ – was guaranteed to draw governmental attention: Hill had been one of Bevan’s most vocal critics in debates over the establishment of the NHS.²⁸⁸ Official representation came in the form of Taylor from MCW, who agreed to attend but, owing to the terms of her employment, could make no comments for broadcast.²⁸⁹ Following a letter in *The Times* inviting questions for the panel, 23 were submitted.²⁹⁰ Sixteen were concerned with the provision of analgesia, and most of the remainder addressed the state of maternity services. On the evening of 8 June, less than a month before the establishment of the NHS, the meeting took place, and was broadcast the next afternoon as part of ‘Woman’s Hour’, between a lecture on first aid in the home and a piece entitled ‘What about your husband’s clothes?’.²⁹¹

Reporting on the meeting to the Executive Committee, Rhys-Williams emphasised the excellent publicity it had achieved.²⁹² Although the hall had been only two-thirds full, 28 organisations and hospitals had sent representatives, and reporters from four national newspapers had attended. A transcript of the meeting, taken from the shorthand notes of Doreen Riddick, the NBTF secretary, shows the event to have been generally good-humoured.²⁹³ In his speech Holland looked forward to a gradual but significant improvement in the maternity services under the NHS. Members of the ‘brains trust’ agreed on the problems of analgesia in childbirth – insufficient antenatal education, too few Minnitt machines – and on the solutions: improved training for midwives, and the wider provision of analgesia. The most overtly politicised event of the meeting took place after the formal closing, and was excluded from the

²⁸⁷ Lady Helen Nutting, NBTF, to Evelyn Gibbs, producer of ‘Women’s Hour’, BBC, 19 May 1948, and Mary Hill, deputy editor of ‘Women’s Hour’, BBC, to Nutting, 25 May 1948, WTL SA/NBT/G.33/1.

²⁸⁸ Webster (1988), pp45, 60.

²⁸⁹ ‘Minutes of a meeting between representatives of the NBTF, the MWA, the NFWI and the MoH’, 23 Feb 1948, WTL SA/NBT/G.33/2.

²⁹⁰ Espley AJ. (1948) Letters. Pain in childbirth. *The Times* 51078 (22 May): 5.

²⁹¹ Press cutting, marked ‘Radio Times, 4 Jun 1948, p15’, WTL SA/NBT/G.33/2.

²⁹² Rhys-Williams, ‘Report on public meeting held at Caxton Hall, Westminster’, 8 June 1948, WTL SA/NBT/G.33/3.

²⁹³ Riddick, ‘Transcript of speech by Eardley Holland’ and ‘Transcript of brains trust session’, 8 Jun 1948, WTL SA/NBT/G.33/4.

BBC's broadcast. Rhys-Williams proposed, and the audience supported, a motion to be sent to the MoH, calling on the leaders of the new health service:

to regard the provision of a complete and efficient maternity service, incorporating all improvements for the safety, relief and comfort of women in labour, as a matter of urgent priority.²⁹⁴

Immediately after the meeting, the NBTF campaign lessened in intensity. July 1948 was the month in which the NHS was established, and this strategic pause might reflect a view on the part of the Executive Committee that pressure on the NHS in its first few months would be counterproductive to their aims. It may, on the other hand, have simply coincided with the Executive Committee's summer vacation. Whatever the cause, by the autumn of 1948 their interest was redoubled. In an article in the *News of the World* on 28 November Rhys-Williams argued that only the goodwill and hard work of domiciliary midwives was keeping NHS maternity services from collapse.²⁹⁵ An allegedly socialised system was, she claimed, generating even greater inequalities between rich and poor.

Around this time, the NBTF campaign received a major setback. More than a year behind schedule and £200 over budget, the RCOG committee finally submitted report on Trilene for unsupervised midwives.²⁹⁶ The committee had concluded that Trilene was in principle suitable for use by unsupervised midwives, but the inhaler in which they had tested it could not be recommended for CMB approval. The NBTF had put a large proportion of its funds into this study, even diverting money from the account for purchasing Minnitt machines, hoping that Trilene would be the next major advance in analgesia for unsupervised midwives. With this avenue of research at least temporarily closed, the NBTF needed new ways in which it could attract public and official attention to the subject of pain relief in childbirth. One approach was

²⁹⁴ Rhys-Williams mentioned this motion in her 'Report on public meeting held at Caxton Hall, Westminster', 8 Jun 1948, WTL SA/NBT/G.33/3. The text of the motion is quoted in Espley, circular to membership of the Women's Group on Public Welfare, 5 Nov 1948, WTL SA/NBT/G.33/4.

²⁹⁵ Rhys-Williams J. (1948) Next steps in making motherhood easier. *News of the World* (28 Nov): 2.

²⁹⁶ RCOG. (1948) *Report of an investigation into the use of trichlorethylene as an analgesic in labour*. London: RCOG. See also section 4.1.

to press the CMB to approve pethidine, an injectable opioid analgesic generally acknowledged to be safe, though of doubtful efficacy and with questions over its powers of addiction.²⁹⁷ Another was to take the question of obstetric analgesia to the very heart of government.

3.3. The NBTF and the Analgesia in Childbirth Bill, 1949.²⁹⁸

Work on the report of the working party on midwifery had taken rather longer than the six months allotted at its foundation. Published on 28 January 1949 and split into six sections, the report made more than 50 recommendations on ways in which the status of midwifery as a profession could be improved.²⁹⁹ It called for a clearer demarcation between the training of nurses and midwives; a closer working relationship with hospital obstetricians; modernisation of salary scales, with allowances for childcare and 'domestic help'; and a single national uniform and insignia, possibly a stork. But analgesia featured in only one recommendation:

Para. 109. The Medical Research Council should be asked to set up a Committee urgently to find a more effective method of analgesia for use by midwives... Without the addition of this weapon to her armamentarium, the midwife cannot play her proper part in the health team. Furthermore, until this problem is solved the swing away from domiciliary confinement will continue.³⁰⁰

In the press release that accompanied the report, this recommendation was held up as a major step forward in the ability of midwives to relieve childbirth pain, despite its apparent gainsaying of government policy in promoting home birth.³⁰¹ To the NBTF Executive Committee, perusing an advanced copy of the report in January 1949, this failure to recommend direct legislative

²⁹⁷ See section 4.3.

²⁹⁸ An earlier version of section 3.3 was published as Barnett (2006).

²⁹⁹ Stocks M. (1949) *Report of the working party on midwifery*. London: HMSO. See also Oakley (1984), pp142-144.

³⁰⁰ *Ibid.*, p22.

³⁰¹ 'Midwife as doctor's partner. Proposals to safeguard status. Working party's report', 28 Jan 1949, TNA MH 55/1597.

action, in the manner of their abandoned ‘mothers’ charter’, was a failure of nerve.³⁰² But help was at hand, in the form of Hutchison. According to Rhys-Williams, he had been drawn to the subject of pain relief in childbirth by one of her articles, which criticised delays in getting midwives and doctors to births.³⁰³ A CMB memorandum gives a different version of these events.³⁰⁴ In early January 1949 Hutchison had approached Fenney at the CMB with a draft bill. Fenney told him that the terms of his proposed bill could already be met under the CMB’s existing rules. Hutchison felt that the subject deserved a public airing in parliament, and Fenney advised him to approach Rhys-Williams. Whatever the circumstances of their meeting, Hutchison and Rhys-Williams had by mid-January 1949 drawn up five clauses for a bill:

1. Within five years every practising midwife must have qualified in the administration of analgesia.
2. All midwives to be given a certificate when they had completed, satisfactorily, a course of analgesia.
3. All LHAs must provide the necessary apparatus for analgesia.
4. All LHAs must provide necessary transport for the apparatus.
5. In all hospitals analgesia must be offered to the mother unless there are contra-indications.³⁰⁵

Further support in this direction came from the MWF’s survey of women doctors. Its report, formally published in the *British Medical Journal (BMJ)* in February 1949, and the subject of a supportive note in *The Times* on the same day, found the MWF’s membership to be almost unanimously in favour of increasing the availability of pain relief in childbirth.³⁰⁶ For the

³⁰² NBTF Executive Committee meeting minutes, 19 Jan 1949, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁰³ Rhys-Williams J. (1949) Babies in danger. *Daily Star* Jan 13: 23.

³⁰⁴ Fenney to NC Rowland, MoH, 18 Jan 1949, TNA MH 55/1501.

³⁰⁵ NBTF Executive Committee meeting minutes, 19 Jan 1949, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁰⁶ Lucas Keene M et al. (1949) Pain in childbirth. Report of the subcommittee of the Medical Women’s Federation. *BMJ* I: 333-337; [Anon.]. (1949a) Pain in childbirth. Views of married women doctors. *The Times* 51315 (25 Feb): 2.

Executive Committee this observation provided valuable support for a bill, and they voted to pay the expenses incurred by the MWF in carrying out the survey.

At the next Executive Committee meeting on 4 February 1949 Rhys-Williams announced a minor setback.³⁰⁷ Hutchison's name had not been drawn in the ballot, and so he was unable to introduce a bill. But Peter Thorneycroft, Conservative member for Monmouth, had been successful, and was prepared to drop his own bill in favour of the NBTF.³⁰⁸ Thorneycroft was Rhys-Williams' constituency MP and, perhaps because of this, an established NBTF supporter. Twice in the previous year he had put questions to the Minister of Health on behalf of the NBTF.³⁰⁹ Despite being in the middle of an acrimonious and well-publicised divorce in the spring of 1949, Thorneycroft agreed to introduce their bill. After a formal redrafting by a firm of parliamentary agents – who introduced a clause, required by the Treasury, to the effect that it would not incur any additional government expenditure – the Analgesia in Childbirth Bill received its first reading on 28 January.³¹⁰

Thorneycroft had accompanied Rhys-Williams to a meeting with Sir William Douglas, permanent secretary to the MoH, and Sir Wilson Jameson, then CMO, on 2 February.³¹¹ The Bill was discussed and, according to Rhys-Williams, 'the Ministry were not opposed to the Bill and would in fact be happy to facilitate its speedy passage'.³¹² MoH documents relating to this meeting are rather more equivocal. In their notes, Douglas and Jameson reported that they had stressed Fenney's point about the superfluous nature of the Bill.³¹³ They thought, however, that it might serve to 'piggy-back' into law a number of useful but minor recommendations from the report of the working party on midwifery – the exemption of midwives from jury service, the

³⁰⁷ NBTF Executive Committee meeting minutes, 4 Feb 1949, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁰⁸ On Thorneycroft, see Heffer S, 'Thorneycroft, (George Edward) Peter, Baron Thorneycroft (1909-1994)', *ODNB*.

³⁰⁹ NBTF Executive Committee meeting minutes, 7 Jan 1948 and 1 Sept 1948, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³¹⁰ Treasury policy at this time did not permit revenue to be diverted to non-governmental bills, and all private members' bills were required to contain a clause to this effect. See 'Extract from cabinet minutes', 10 Mar 1949, TNA MH 55/1501.

³¹¹ On Jameson, see Godber GE, 'Jameson, Sir (William) Wilson (1885-1962)', *ODNB*.

³¹² NBTF Executive Committee meeting minutes, 4 Feb 1949, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³¹³ Enid Russell-Smith, under-secretary, MoH, to NC Rowland, MoH, 2 Feb 1949, TNA MH 55/1501.

power of the CMB to set a national uniform and so on. The MoH referred the Bill to their legal advisors, and the NBTF began their publicity campaign.

A second reading of the Bill, the first opportunity for an extended debate, was scheduled for 4 March, and the Executive Committee moved quickly. It offered to cover all of Thorneycroft's expenses in supporting the Bill, estimated by Rhys-Williams at about £10, and arranged a press conference for Thorneycroft and the Executive Committee on 17 February.³¹⁴ A press release detailing NBTF involvement in the field and the objectives of the new legislation was distributed with copies of the Bill itself. At the press conference Rhys-Williams claimed that the Bill was already receiving the tacit support of all political parties and of other interested groups, such as the CMB and the (now Royal) College of Midwives (RCM).³¹⁵ *The Times* came out in support: the Bill 'deserves to be put on the Statute-book, if only as a demonstration that the long-neglected problem of relieving needless pain in childbirth is at last receiving proper attention'.³¹⁶ The *Lancet* reported the introduction of the Bill, carefully avoiding any hint of support or disapproval, and the *BMJ* chose to ignore it entirely.³¹⁷

Within the MoH, however, the Bill was proving more problematic. Clause 1, relating to the training and certification of midwives in the use of analgesia, was quickly dismissed as unnecessary. This subject was under the direct control of the CMB, and the aims of the Bill would easily be achieved within five years without further action. Clauses 2 and 3, covering the provision of training and equipment by LHAs, presented a more serious challenge. Midwifery fell under the purview of three major acts: the Midwives Act, 1902; the Midwives Act, 1936; and the National Health Service Act, 1946, which established a statutory framework for the NHS. Under sections 20 and 23 of the NHS Act, LHAs were responsible only for the employment of midwives. Under the Midwives Acts, the responsibility for their training lay with the CMB, and the responsibility for equipment with individual midwives and LSAs.

³¹⁴ NBTF Executive Committee meeting minutes, 16 Feb 1949, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1. A copy of the NBTF press release is held in WTL SA/MWF/H.5.

³¹⁵ A copy of the NBTF press release is held in WTL SA/MWF/H.5. The College of Midwives received a Royal charter in 1947. See Cowell & Wainwright (1981), p65.

³¹⁶ [Anon.]. (1949b) Childbirth bill. *The Times* 51321 (4 Mar): 5.

³¹⁷ [Anon.]. (1949c) Analgesia in childbirth. *Lancet* I (26 Feb): 356-357.

Thorneycroft's Bill would shift these responsibilities, and the financial and administrative control that came with them, to the LHAs.

From the autumn of 1948 Bevan's MoH and Stafford Cripps' Treasury had developed serious disagreements over the projected expansion of the new NHS.³¹⁸ Cripps opposed any Bill that would increase NHS expenditure. Bevan opposed any move towards charging for prescriptions or treatment, or limiting the availability of treatment on financial grounds alone. But both agreed that Thorneycroft's Bill would take administrative and financial control away from central government, and opposed it for this reason. Bevan felt that, as the Bill was widely supported and (in his view) had little chance of becoming an act, the government would be foolish to block it.³¹⁹ Officials in the MoH accordingly prepared for the second reading debate. Although there would be 'no occasion for a long speech by the government spokesman', the parliamentary secretary for health was provided with a detailed note on the CMB's involvement in this field.³²⁰

In his opening speech at the second reading, Thorneycroft's strategy was to present his Bill as a simple moral choice. His colleagues could either lose sight of the Bill's aims in party-political manoeuvring, or they could support it as a step forward in 'the reduction of the sum total of human suffering'.³²¹ Though Bevan had said that he was prepared to give the Bill the benefit of a second reading, Thorneycroft's sources suggested that this would be the absolute limit of his interest and that the Minister of Health was preparing 'coldly and deliberately to kill this Bill'.³²² By the end of the debate the parliamentary secretary for health, having been the only speaker against the Bill in nearly four hours, agreed to pass the Bill to its next stage – a standing committee. Support for the Bill did not wane. A week after the second reading, more than 300 MPs from all parties signed a petition urging the government to adopt the Bill.³²³

³¹⁸ These tensions emerged during the first cabinet review of NHS expenditure in May 1949. See Webster (1988), pp134-135. On Cripps' time as Chancellor of the Exchequer under Atlee, see Clarke P, Toye R, 'Cripps, Sir (Richard) Stafford (1889–1952)', *ODNB*.

³¹⁹ 'Cabinet legislation committee. Analgesia in childbirth. Joint memorandum by the Minister of Health and the Secretary of State for Scotland', 24 Feb 1949, TNA MH 55/1501.

³²⁰ See Rowland to RG Forrest, Department of Health for Scotland, 25 Feb 1949; 'Notes on the training of midwives in the administration of analgesia', 25 Feb 1949, TNA MH 55/1501.

³²¹ *Hansard* fifth series (462) 4 Mar 1949: col 700.

³²² *Ibid.*, col 700.

³²³ [Anon.]. (1949d) The analgesia bill. All-party motion in favour. *The Times* 51327 (11 Mar): 2.

Public pressure, too, was maintained. A talk by Dr Robert Sutherland, medical advisor to the Central Council for Health Education (CCHE), on 'Woman's Hour' in early March urged Bevan to take positive action on the Bill.³²⁴ And the NBTF's well-publicised support for the Bill could, on occasion, prompt swift action by the MoH:

Lady Rhys-Williams ... has been heard to name Blackpool as a town which would not make special arrangements for the transport of analgesic equipment and expected the midwives to take it by tram. Whether that was ever the case it is not now. An urgent instruction [permitting transport of midwives' equipment by ambulance] has been issued to all municipal midwives.³²⁵

Bevan met again with his advisors on 9 March 1949.³²⁶ Thorneycroft's Bill appeared to be turning into a serious challenge, both to the authority of the government and the power of the NHS, and he proposed a new approach in tackling it. Was it possible to argue that the NHS Act, 1946, enabled the Minister of Health to provide transport and equipment for midwives, by forcing LHAs firstly to act in the matter and secondly to cover any additional expenses from their existing budgets? This would render Thorneycroft's Bill utterly superfluous, and would ensure that no centrally held spending power or administrative control would pass to the LHAs. Even if the argument were disputed, Bevan could claim that such a power would be included in the NHS (Amendment) Bill, 1949, also under debate at the time. Bevan's legal advisor was certain that the NHS Act did not, in fact, give him these powers, but acknowledged that Bevan could 'with propriety' say that he believed this 'to be the case subject to advice'.³²⁷

³²⁴ Sutherland sent a transcript of this broadcast to the MoH. See secretary, CCHE, to Rowland, 8 Mar 1949, TNA MH 55/1501. The CCHE was founded in 1927 by members of the Society of Medical Officers of Health (SMOH). During the Second World War it had received Treasury and MoH support for educational campaigns against sexually transmitted diseases. See Berridge (1999), p21.

³²⁵ 'Memorandum. Blackpool. Transport for conveyance of analgesia apparatus', Mar 1949, TNA MH 55/1501.

³²⁶ 'Minutes of meeting between Minister of Health and others', 9 Mar 1949, TNA MH 55/1501.

³²⁷ Brian O'Brien, solicitor and legal advisor, MoH, to Rowland, 10 Mar 1949, TNA MH 55/1501.

Bevan set out this position in a short statement to the Commons.³²⁸ Vocal all-party support for the Bill ensured that this provoked 'complete uproar'.³²⁹ Thorneycroft repeated his determination to see the Bill into law. Bevan now accused him of playing party-politics, seeking to destabilise the NHS by giving one aspect of healthcare absolute priority over all others. Parliamentary support for the Bill began to slip almost immediately after Bevan's strong statement of Labour policy. As *The Times* observed, 'many Labour members will withdraw their names from the motion [in support of the Bill] to avoid embarrassing the government'.³³⁰

Since the Bill had been formally sent to a standing committee, Bevan could not take immediate action against it. But in a cabinet meeting held the evening after his statement he set out the grounds for government opposition to the Bill.³³¹ It was unnecessary, creating no powers that did not already exist in one form or another. It was a challenge to the authority and policies of the elected administration (and as such, he suspected, a concealed Conservative attack on Labour health reforms). Most seriously, it would involve expenditure that the Treasury was unwilling to bear, and a shift in administrative control that would limit the power of the MoH. He and his colleagues agreed unanimously that they should stop the Bill.

But public concern over the maternity services was, Bevan conceded, intense. He urged that the government should be seen to take action upon it in some way. An opportunity for this was found in the report of the working party on midwifery. Stocks and her colleagues had recommended the establishment of a new MRC research committee to investigate new methods of analgesia in childbirth. This committee – named the 'Committee on analgesia in midwifery' (CAM) – had been appointed, and was about to begin a new investigation of Trilene.³³² On 31 March Thorneycroft tabled another parliamentary question on the maternity services. Bevan used his answer to announce the establishment of the CAM, with a more detailed press release issued by the MRC at the end of April.³³³

³²⁸ *Hansard* fifth series (462) 15 Mar 1949: cols 1911-12.

³²⁹ [Anon.]. (1949e) MPs' criticism of Mr Bevan. 'Imputations' against promoters of bill. *The Times* 51331 (16 Mar): 4.

³³⁰ *Ibid.*, p4.

³³¹ 'Extract from cabinet minutes', 10 Mar 1949, TNA MH 55/1501.

³³² See also sections 4.1 and 4.2.

³³³ *Hansard* fifth series (463) 31 Mar 1949: cols 1430-33. A copy of the MRC press release, dated 27 Apr 1949, is held in TNA MH 55/1501.

Meanwhile, Thorneycroft and the NBTF prepared to challenge Bevan's statement on the Bill. They obtained a counsel's opinion on the powers of the Minister of Health under the NHS Act. This concluded that Bevan had no powers to compel LHAs to provide equipment or transport. Even his ability to permit LHAs to act in this matter was 'open to very grave doubt' [original emphasis].³³⁴ Copies of the counsel's opinion were sent to the MoH, the principal supporters of the Bill in parliament, members of the standing committee to which the Bill was sent, and several national newspapers. Bevan's advisors proposed two possible responses. He could either carry on regardless, reiterating his belief in his powers under the NHS Act; or he could make 'appropriate provision' for such powers in the NHS (Amendment) Bill.³³⁵ Bevan chose to do neither. He dropped his claim to authority under the NHS Act but maintained his view that Thorneycroft's Bill was superfluous.

This issue came to a head on 24 May, during the third reading of the NHS (Amendment) Bill.³³⁶ A small group of Labour MPs persuaded Thorneycroft to support an amendment to the Bill. This clause would give the Minister of Health clear powers to compel LHAs to act in this matter, and provide the necessary funds from existing, Treasury-approved funds. If the amendment were accepted, Thorneycroft would withdraw his Bill. If not, he would push it through with all the damage to Bevan's reputation this would entail. In her account of the Analgesia in Childbirth Bill, Williams construes this episode as a minor rebellion over what Labour back-benchers saw as Bevan's high-handed attitude towards health policy.³³⁷ Correspondence in the MoH archives, appears to show that the amendment was drawn up and submitted on Bevan's instructions. In a letter to Herbert Morrison, then Minister of Supply, on 11 May 1949, Bevan proposed that a Labour MP put down an amendment to the NHS (Amendment) Bill 'to remove any doubts that may have been created by Thorneycroft's propaganda'.³³⁸ Even if this amendment were only threatened, Bevan hoped that support for Thorneycroft's Bill might collapse. Morrison agreed, and Bevan asked one of his loyal back-

³³⁴ A copy of the counsel's opinion is held in TNA MH 55/1501.

³³⁵ 'Memorandum. Analgesia in Childbirth Bill', 4 May 1949, TNA MH 55/1501.

³³⁶ *Hansard* fifth series (465) 24 May 1949: cols 1098-1180.

³³⁷ Williams (1997), p169.

³³⁸ Bevan to Herbert Morrison MP, Minister of Supply, 11 May 1949, TNA MH 134/141. On Morrison, see Howell D, 'Morrison, Herbert Stanley, Baron Morrison of Lambeth (1888-1965)', *ODNB*.

benchers, GHC Bing, to approach Thorneycroft and propose the amendment.³³⁹ His subterfuge deceived Thorneycroft and, incidentally, the *Lancet*.³⁴⁰ But Bevan got what he wanted. A large majority of Labour MPs, keen to show their loyalty to the government after the fracas at the second reading of Thorneycroft's Bill, threw the amendment out.³⁴¹

Though the Executive Committee remained confident, devoting one meeting to the choice of a suitable peer to take the Bill through the Lords, Thorneycroft and his parliamentary supporters began to accept that their Bill would not become an Act.³⁴² Thorneycroft continued his attempts to put pressure on the MoH, tabling questions throughout May and June.³⁴³ He also offered to remove the two troublesome clauses from the Bill, if the Minister would permit the remainder through: this would still provide '75 per cent. of what I want'.³⁴⁴ Bevan, now confident of party loyalty in defeating the Bill, refused to negotiate. At a meeting with the parliamentary secretary for health in mid-May, Bevan decided to use the committee stage of the Bill 'to delay its progress and, if possible, to wreck it'.³⁴⁵ He asked his officials to draft several complex amendments to the Bill, and to send them to friendly members of the standing committee. These amendments delayed the Bill for nearly a month, but could not block its progress completely, and it was reintroduced to the Commons for a third reading on 8 July. The NBTF mobilised what support it could. In a circular to interested organisations members were asked to wire to their MPs, as 'MPs take more notice of a telegram than anything else'.³⁴⁶ As a result of this, Bevan received more than thirty telegrams calling on him to support the Bill.³⁴⁷ But time was short before the start of the parliamentary summer recess, and the limited period allotted to the Bill ensured that it was defeated in a vote at the end of its third reading.

³³⁹ Morrison to Bevan, 12 May 1949; Bevan to GHC Bing MP, 17 May 1949, TNA MH 134/141.

³⁴⁰ [Anon.]. (1949f) Analgesia in childbirth. *Lancet* I (28 May): 924.

³⁴¹ *Hansard* fifth series (465) 24 May 1949: cols 1098-1180.

³⁴² NBTF Executive Committee meeting minutes, 29 Jun 1949, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁴³ See, for example, *Hansard* fifth series (465) 3 Jun 1949: cols 191-192.

³⁴⁴ [Anon.]. (1949g) House of Commons. Analgesia in childbirth. Mr Thorneycroft's offer. *The Times* 51390 (25 May): 2.

³⁴⁵ MoH circular, 13 May 1949, TNA MH 55/1501.

³⁴⁶ See, for example, Riddick to members of the MWF, 24 Jun 1949, WTL SA/MWF/H.5.

³⁴⁷ These telegrams are held in TNA MH 134/144.

After the vote, Bevan harangued his parliamentary opponents.³⁴⁸ He used the first progress report of the CAM to claim that, while Thorneycroft and the Tories had wasted days of parliamentary time with a completely unnecessary Bill, the MoH had been taking quiet but effective action on the problem of pain in childbirth. The Executive Committee took this news with equanimity: it was a disappointing result after six months of effort, but the Bill had generated excellent publicity for the NBTF.³⁴⁹ Their final action on the subject was to pay Thorneycroft for his expenses, now estimated at more than £250, from NBTF funds.

3.4. Conclusion.

The Analgesia in Childbirth Bill, 1949, was, in terms of its immediate objective – to give midwives the statutory right to provide analgesia in childbirth to all women fit to receive it – a failure. Despite this, the debates surrounding the Bill illuminate contemporary governmental, charitable and medical attitudes towards obstetric analgesia. As Williams has noted, for the NBTF the Bill offered one way in which it could try to regain its pre-war status as a leader of developments the maternity services in general and in obstetric analgesia in particular, a position hit hard by the Second World War and the 1945 Labour landslide. Its approach to these subjects in the post-war period reveals the tension between the NBTF Executive Committee's traditionally voluntarist, socially elite outlook and its recognition of the changing landscape of state healthcare in Britain. The Bill was at once a challenge to the socialised structure of the NHS, and an attempt by this socially and politically conservative organisation to achieve its aims within that system.

Bevan's response to the Bill reflects the ongoing debate in government and medical circles during this period over the structure and funding of the NHS. As Webster points out, the basic idea of a national health service was never politically insecure to any significant degree, having received the support of all major parties.³⁵⁰ But this security did not extend to its finances or

³⁴⁸ *Hansard* fifth series (465); 8 Jul 1949: cols 2545-2589.

³⁴⁹ NBTF Executive Committee meeting minutes, 31 Aug 1949, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁵⁰ Webster (2002), pp12-28.

administrative hierarchy, still less to the Labour government's chosen method of implementation or the support of the medical profession. Between its foundation in July 1948 and the end of the Attlee administration in October 1951, the NHS experienced, in Webster's phrase, a 'continual crisis of expenditure'.³⁵¹ This financial crisis was exacerbated by tensions within the cabinet. The Treasury under Cripps insisted that patients should be made to pay some proportion of the costs of their treatment, but Bevan vigorously opposed any attempt to introduce prescription charges. One consequence of the Bill would have been to pass more central administrative control, and more central spending power, to LHAs – a consequence that Bevan and Cripps agreed was unacceptable. In this sense, the governmental precedent that the Bill would have set became a major factor in its defeat. Bevan's concerns in the debates over the Bill were both protectionist and centralist, aiming to keep administrative and financial control in the hands of national, rather than local, statutory bodies. He also sought to protect himself and his colleagues from what he perceived as a Conservative attack on the Labour vision of the NHS. In this way, Bevan's attitude towards the Bill reveals something of the concerns surrounding the establishment of the NHS, in that a private member's bill with no formal governmental support could become a major threat to government policy.

In wider terms, the intense controversies over the Bill revealed to Bevan and the MoH the depth of interest in this subject, not only among mothers and the medical profession but also in parliament and the country at large. Most significantly, these debates demonstrate the degree to which the provision of obstetric analgesia in this period was seen to be related to the professional status of midwives. It is worth noting at this point that two voices almost entirely absent from this account of the debates over the Bill were those of midwives, both individually as practitioners and collectively through the RCM, and mothers. The large national organisations involved in these debates appear to have developed their policies on this subject with little or no formal interest in the views of mothers, individual midwives or the RCM. As chapter 2 demonstrated, the RCOG's policy of hospitalising birth had, by the late 1940s, been adopted by the MoH, and formally included in the provisions of the NHS. But around half of all births in England and Wales continued to take place in the mother's home. For this reason the

³⁵¹ Ibid., pp30-38.

NBTF, the CMB and the MoH continued to take an interest in midwives as independent practitioners, able to administer effective pain relief in childbirth. Chapter 4 examines another expression of this interest: the series of official and semi-official trials of new analgesic agents for use by unsupervised midwives.

Chapter 4. On their own responsibility: testing and approving new methods of obstetric analgesia for unsupervised midwives in England and Wales, 1945-1975.

One response to concerns over the status of midwifery in England and Wales after the end of the Second World War was legislative – the Analgesia in Childbirth Bill, 1949. But between 1945 and the early 1970s, the same individuals and organisations involved in debates over the Bill also attempted to increase the range of analgesic techniques approved by the CMB for use by unsupervised midwives. These technical developments in obstetric analgesia were closely related to changing official attitudes to the status of midwives and their role in hospital birth. In this period, the CMB's efforts to improve the status of midwives ran in parallel with NBTf campaigns to make obstetric analgesia available to all women. Both organisations believed that an improved capacity to ameliorate the pain of childbirth – or at least the appearance of improvement – would make midwifery a more attractive career, and hence improve the provision of pain relief in childbirth to a substantial proportion of women in England and Wales.

But as previous chapters have suggested, this attitude changed radically in the three decades after the end of the Second World War. The rapid hospitalisation of birth in the 1960s meant that domiciliary midwives were increasingly excluded from the provision of obstetric analgesia and other maternity services. This is reflected in changing official and medical approaches to new techniques of obstetric analgesia. This chapter aims to trace these shifts in attitudes by reconstructing the involvement of anaesthetists, obstetricians, clinical scientists and government officials in the development and approval of four new analgesic techniques for use by unsupervised midwives in this period: the volatile agent Trilene; the synthetic opioid pethidine; the 'Lucy Baldwin' nitrous oxide / oxygen inhaler; and pre-mixed nitrous oxide / oxygen ('Entonox').³⁵² Early investigations, such as those of Trilene, concentrated on the suitability of

³⁵² These four techniques were not the only analgesics approved by the CMB for use by unsupervised midwives in this period. In the early 1970s, the CMB approved the volatile analgesic Penthrane

the analgesic agent specifically in terms of its use by unsupervised domiciliary midwives. In this sense, they followed the pattern set by the approval of the Minnitt machine in 1937 and the Analgesia in Childbirth Bill, 1949. Later trials, such as the MRC's study of Entonox, were less focused on the particular challenges of analgesia in domiciliary midwifery, and more concerned with the development of analgesics that could be administered by unsupervised midwives or maternity nurses in the context of hospital birth.

For anaesthetists, members of a comparatively junior clinical speciality, the investigations described in this chapter provided an opportunity to assert their new status as 'experts', capable of providing reliable advice on medical matters of national importance. Throughout this period, investigations of obstetric analgesia were generally dominated by representatives of the RCOG. But from the late 1950s, consultant anaesthetists increasingly became involved in these investigations. Many of the anaesthetists actively involved in the foundation of the OAA had also been involved in the MRC investigation of Entonox.

This chapter must, like previous chapters, acknowledge the limitations associated with the sources it uses. In this case, these sources exclude not only the perspectives of mothers and midwives, but also a significant aspect of clinical research. Secondary sources suggest that the effect of anaesthetic and analgesic agents on fetuses on neonates was a central theme in much clinical research in anaesthetics and obstetrics in this period.³⁵³ However, the archival material used in this chapter makes few if any references to this subject, nor any indications as to the reasons for this omission. Chapters 5 and 6 will consider this question in more detail.

Finally, it is worth noting that the case-studies presented in this chapter address many of the themes which have emerged from work on the social construction of technology (SCoT).

(methoxyflurane) and the synthetic opioid Fortral (pentazocine). Both were seen as variations on established analgesic techniques (Trilene and pethidine respectively) and so were not the subject of new investigations. See the papers held in TNA DV 11/258.

³⁵³ On research concerning the effect of analgesics and anaesthetics on fetuses and neonates, see Christie DA, Tansey EM. (eds) (2001) *Origins of neonatal intensive care in the UK*. Wellcome witnesses to twentieth century medicine vol 9. London: Wellcome Trust Centre for the History of Medicine at UCL; idem. (eds) (2001) *Maternal care*. Wellcome witnesses to twentieth century medicine vol 12. London: Wellcome Trust Centre for the History of Medicine at UCL; Reynolds LA, Tansey EM. (eds) (2005) *Prenatal corticosteroids for reducing morbidity and mortality after preterm birth*. Wellcome witnesses to twentieth century medicine vol 25. London: Wellcome Trust Centre for the History of Medicine at UCL. On the particular challenges associated with this type of oral history see Tansey EM, 'Witnessing the witnesses: potentialities and pitfalls of the witness seminar in the history of twentieth-century medicine', in Doel & Soderqvist (2006), pp260-278.

Following the foundational work of Trevor Pinch and Wiebe Bijker in the late 1980s, the SCoT programme approaches technology as part of a 'seamless web' of society, politics and economics, utilising 'thick description' to explore the ways in which technologies are constituted.³⁵⁴ Recent work has applied this approach to medical technologies, exploring the relationship between medical research, commercial organisations, clinical practices and professionalisation.³⁵⁵ Of particular relevance to this chapter are Pinch & Bijker's notions of 'relevant social groups' and 'interpretative flexibility'.³⁵⁶ Different social groups construct different meanings for particular technologies (which include not only material objects such as a Trilene inhaler, but also activities such as research programmes, and tacit knowledge such as that involved in determining clinical dosages of pethidine) and the particular characteristics of each group determines the uses to which the technology is put and the unexpected resistances they encounter in research, development and deployment. Though this approach is not pursued here, these case studies appear to be very suitable subjects for a SCoT analysis, and this possibility will be explored in future work.

4.1. Trilene.

[Trilene] has, without doubt, greater analgesic properties than gas and air, and there is a certain degree of good psychology in the patient being able to smell something rather more definite than in the case of nitrous oxide and air.³⁵⁷

³⁵⁴ Pinch and Bijker set out the basis of the SCoT programme in Pinch T, Bijker W, 'The social construction of facts and artifacts: or how the sociology of science and the sociology of technology might benefit each other', in Bijker W, Hughes T, Pinch T. (eds) (1989) *The social construction of technological systems: new directions in the sociology and history of technology*. Cambridge: Massachusetts Institute of Technology Press, pp17-50. Andrew Pickering has continued to develop their work: see Pickering A. (ed) (1992) *Science as practice and culture*. Chicago: University of Chicago Press; idem. (1995) *The mangle of practice: time, agency and science*. Chicago: University of Chicago Press.

³⁵⁵ For various approaches to the history of medical technologies, including SCoT-influenced analyses, see the essays in Timmermann C, Anderson J. (eds) (2006) *Devices and designs: medical technologies in historical perspective*. London: Palgrave Macmillan.

³⁵⁶ Pinch & Bijker in Bijker et al (1989), pp28-40.

³⁵⁷ Roberts H. (1955) *Analgesia for midwives*. Edinburgh: E & S Livingstone, p42.

In her 1955 textbook on analgesia for midwives Dr Hilda Roberts, the NBTF research fellow in obstetric analgesia at the Hammersmith Hospital, identified the sickly-sweet odour of Trilene vapour as the smell of success.³⁵⁸ In January of that year, Trilene inhalers had been approved by the CMB for use by unsupervised midwives. This new apparatus, made of bright stainless steel and supplied in a smart wooden case, was far smaller and far lighter than the Minnitt machine; it produced analgesia in a higher proportion of mothers than nitrous oxide / air; and a small, inexpensive bottle of liquid Trilene could provide analgesia for a midwife's entire monthly case load. But in another sense, Roberts might have been equally justified in asking why the approval of Trilene had taken so long. Since 1945 no medical authority had seriously questioned the principle of permitting unsupervised midwives to use Trilene. Why had there been a decade's delay?

The concerns that emerged in the two clinical studies of Trilene in this period, one by an RCOG committee, another by the CAM, were carried over into later work on other analgesics. First, the general recognition that expertise in this field was no longer restricted to senior members of the RCOG. Experienced anaesthetists and MRC clinical staff were increasingly seen to have a role in these investigations. Second, the tensions between this changing view of clinical expertise and the NBTFs claims to authority and influence. Finally, the two-way role of the press. The popular and medical press were not merely reporting these investigations. They were, to a certain degree, setting their agenda by establishing and engaging with public interest in this subject – for instance, in their accounts of the birth of Prince Charles, discussed later in this chapter.

The first large-scale trial of trichloroethylene as a general anaesthetic took place in 1940 at St Bartholomew's Hospital, London, under Hewer's supervision. 127 patients – 'most of whom were wounded soldiers evacuated from Dunkirk' – were anaesthetised, using a chloroform

³⁵⁸ Between 1953 and 1955, the NBTF funded an obstetric analgesia research unit at the Hammersmith Hospital, in which postgraduate midwifery students carried out research into clinical and social aspects of obstetric analgesia under Roberts' supervision. See Williams (1997), p145. Through her work in the unit, Roberts became involved in the teaching of analgesia to midwives. In 1955 she published a short book – Roberts (1955) – based on her experiences at Hammersmith.

inhaler filled with trichlorethylene.³⁵⁹ Hewer published his research in the *BMJ* in 1941. Although his study was small, he concluded that trichloroethylene merited further investigation. It was effective, non-flammable, cheap, and already widely available. Since the late 1930s, ICI had been marketing 'Trilene' – clinically pure trichloroethylene – as an antiseptic.

Between 1941 and 1945 a series of papers and letters in the medical press suggested improvements and modifications to Hewer's method. These letters did not, on the whole, come from large research groups, but from individual anaesthetists, who designed and built their own apparatus and tested it on their own patients. In the spring of 1942 Rex Marrett, one of Hewer's colleagues at St Bartholomew's, made a Trilene / ether inhaler from two glass jars and a mixer valve.³⁶⁰ In his paper Marrett also described the use of a lower concentration of Trilene vapour in air, for analgesia rather than anaesthesia. Six months later Elam wrote to the *Lancet*, describing a series of one thousand Trilene anaesthetics given under his supervision at the Wellhouse Hospital. Elam praised the drug for its wide range of applications, but (perhaps inevitably, singled out its value in midwifery). Trilene, he claimed, 'appears to have very little effect on the uterine muscle, and a weak mixture of Trilene and air will give an analgesia similar to that obtained with gas [nitrous oxide] and oxygen'.³⁶¹

In 1943 Alexander Freeman, an anaesthetist at the Lewisham Hospital, combined Marrett and Elam's observations in the first dedicated trial of Trilene as an analgesic in childbirth.³⁶² Freeman built a simple inhaler, similar to Edwards' design: a glass bottle fitted with a mask containing a draw-over valve. This became known, with comparable simplicity, as the Freeman inhaler. Freeman, like Hewer, found Trilene an excellent drug:

Adequate analgesia for mother and infant was provided by this inhaler. The advantages are as follows: there seem to be no contra-indications to its use; the inhaler is simple and

³⁵⁹ Hewer CL, Hadfield CF. (1941) Trichlorethylene as an inhalation anaesthetic. *BMJ* I: 924 –927. This article includes a short history of trichloroethylene.

³⁶⁰ Marrett R. (1942) Apparatus for obtaining general analgesia and anaesthesia. *BMJ* I: 643. William Edwards, a Surrey obstetrician, later simplified this design to a single jar. See Edwards W. (1943) Analgesia in midwifery: a 'Mechanical Midwife'. *BMJ* II: 795.

³⁶¹ Elam J. (1942) Trichlorethylene anaesthesia. *Lancet* II: 309.

³⁶² Freeman A. (1943) Trichlorethylene-air analgesia in childbirth. An investigation with a suitable inhaler. *Lancet* II: 696-697. This article includes a sketch of Freeman's inhaler.

portable, and the vapour concentration cannot be increased; the method is inexpensive and, like the gas-and-air method, could be used by suitably trained midwives. The portability of the inhaler makes it convenient for domiciliary use.³⁶³

Freeman appears to have been thinking in terms of Trilene analgesia for use by midwives, and possibly, depending on the interpretation of his last sentence, for domiciliary midwives. But not all users of the new drug were satisfied with its effects. SF Durrans, an anaesthetist in Dorset, reported a prolonged period of respiratory depression in patients who had received Trilene for more than three hours.³⁶⁴ He ascribed this to the drug's tendency to build up in body fat, and only gradually dissipate. And Anthony Hunter, anaesthetist to the Manchester Royal Infirmary, described an increased incidence of cardiac irregularities and neuralgia in patients who received Trilene.³⁶⁵ Further reports of side-effects prompted ICI to issue a warning on the use of the drug in the spring of 1944.³⁶⁶ Their research chemists had found that Trilene reacted with the soda-lime used to absorb carbon dioxide in many inhalers. This reaction produced a variety of toxic compounds, including phosgene, a poison gas used in the First World War. Trilene's addictive powers had been observed decades before in the German dry-cleaning industry. Its increasingly widespread clinical use raised the possibility of anaesthetists who used the drug regularly becoming addicted to its vapour.³⁶⁷

Despite these drawbacks, British physicians appear to have adopted Trilene fairly rapidly, both as an anaesthetic and an analgesic. A survey published in the *BMJ* in July 1946 found the drug in widespread use across the country, particularly for midwifery. The authors highlighted its 'phenomenal' cheapness, and the 'very useful and gratifying phenomenon' of temporary amnesia following a low, analgesic dose.³⁶⁸ Its availability should not, they argued, be limited to those women fortunate enough to be attended in childbirth by a doctor. Correspondence in the general medical press suggests a growing number of doctors took this view. When DM Stern, a

³⁶³ Ibid., p697.

³⁶⁴ Durrans SF. (1943) Delayed recovery from Trilene anaesthesia. *Lancet* II: 191.

³⁶⁵ Hunter AR. (1944) Complications of Trilene anaesthesia. *Lancet* I: 308-309.

³⁶⁶ [Anon.]. (1944) Dangers of Trilene anaesthesia. *Lancet* I: 379-380.

³⁶⁷ See Enderby GEH. (1944) The use and abuse of trichlorethylene. *BMJ* II: 300-302.

Middlesex obstetrician, wrote to the *BMJ* advising against the use of Trilene by midwives, four obstetricians wrote to challenge his criticisms in the next issue of the journal.³⁶⁹ This increasing interest mirrored the movement of clinical research on Trilene away from individual workers on hospital wards, and towards larger, more formalised investigations. In the summer of 1946, for example, Philip Helliwell and Andrew Hutton, both junior anaesthetists at Guy's Hospital, received five-year AAGBI research fellowships to work on Trilene in obstetrics.³⁷⁰

This apparent degree of medical interest in Trilene for obstetric analgesia quickly attracted the attention of the NBTF. But its first discussion of Trilene was uncharacteristically muted. At a meeting of the Executive Committee in October 1945 Sir Comyns Berkeley, yet another fellow of the RCOG involved in NBTF campaigns, mentioned Trilene as a possible successor to nitrous oxide / air analgesia.³⁷¹ But, he argued, an investigation into the new drug would be time-consuming, and the NBTF would do better to focus its efforts on the distribution and maintenance of Minnitt machines. This discussion caught Rhys-Williams' attention. She wrote privately to Holland, to get his professional views on Trilene.³⁷² In his reply Holland mentioned a recent discussion at the RCOG, on the subject of clinical research on the drug.³⁷³ He implied that the RCOG was planning a comparative trial of all the Trilene inhalers then on the market, but was short of the necessary funds.

Rhys-Williams outlined her correspondence with Holland at the next meeting of the Executive Committee.³⁷⁴ She also reported on a meeting she had attended with Berkeley and Walker. Here, a representative of Siebe Gorman, manufacturers of diving gear and anaesthetics equipment, had demonstrated a new Trilene inhaler designed by Dr Arthur Hyatt, a GP-anaesthetist working with Elam in Barnet. Hyatt's apparatus automatically compensated for the effect of temperature change on the concentration of Trilene vapour in air. Rhys-Williams,

³⁶⁸ Barratt A, Platts SHB. (1946) A short survey of Trilene. *BMJ* II: 10-12.

³⁶⁹ Stern DM. (1947) Trilene in labour. *BMJ* I: 199. For an example of the responses to Stern's letter, see Devitt DC. (1947) Trilene in labour. *BMJ* I: 270.

³⁷⁰ Boulton (1999), pp107-109.

³⁷¹ NBTF Executive Committee meeting minutes, 24 Oct 1945, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁷² Rhys-Williams to Eardley Holland, RCOG, 16 Nov 1945, WTL SA/NBT/H.14/1/2.

³⁷³ Holland to Rhys-Williams, 21 Nov 1945, WTL SA/NBT/H.14/1/2.

³⁷⁴ NBTF Executive Committee meeting minutes, 21 Nov 1945, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

Berkeley and Walker had agreed that a production model of Hyatt's inhaler might have great potential for midwifery. Espley pointed out that the NBTF's current lack of funds meant that any investigation would have to be on a far smaller scale than the Minnitt machine trial. But the NBTF could spare a thousand pounds for clinical research, and Berkeley claimed that this figure would be more than enough for the RCOG's purposes. This apparent straightforwardness between the RCOG and the Executive Committee concealed a certain amount of mutual suspicion.³⁷⁵ On one hand, the NBTF had only a small research fund, and members of the Executive Committee wanted to ensure that the money was spent constructively to achieve their aims. On the other, it needed to maintain the RCOG's support and co-operation. And it was not only collective relationships that had to be maintained:

Both Mr Rivett and Sir Comyns Berkeley have at different times been at loggerheads with the College. I have no doubt that they were right; but we do not want to get 'across' Dr Eardley Holland, who is apparently very friendly at the moment.³⁷⁶

Similar concerns are apparent in the letter formally inviting the RCOG to submit a plan for its investigation.³⁷⁷ The Executive Committee was happy to leave the choice of method, trial hospitals and committee membership to the RCOG. But there could be no discussion on the ultimate aim of the investigation: it must address methods of analgesia for use by midwives, not obstetricians. By January 1946 the terms of the investigation had been agreed – an initial grant of £500, with £250 reserved for unexpected expenses – and the RCOG was given formal permission to proceed.³⁷⁸ It appointed a committee of twelve members to supervise the investigation. This included Macintosh and John Chassar Moir, Nuffield professors of (respectively) anaesthetics and obstetrics and gynaecology at the Radcliffe Infirmary, Oxford.³⁷⁹

³⁷⁵ Rhys-Williams to William Penman, NBTF, 22 Nov 1945, WTL SA/NBT/H.14/1/2.

³⁷⁶ *Ibid.*

³⁷⁷ Rhys-Williams to Winifred Mallon, secretary, RCOG, 22 Nov 1945, WTL SA/NBT/H.14/1/2.

³⁷⁸ NBTF Executive Committee meeting minutes, 16 Jan 1946, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁷⁹ Holland to Rhys-Williams, 10 Feb 1946, WTL SA/NBT/H.14/1/2. On Chassar Moir, see Loudon I, 'Moir, John Chassar (1900–1977)', *ODNB*.

As president of the RCOG, Claye took the chair.³⁸⁰ The RCOG committee's first step was to draw up a set of practical specifications for a safe Trilene inhaler. To receive the committee's approval, an inhaler would (amongst other things) have to maintain a fixed concentration of Trilene vapour in air (set at 0.3%) within a reasonable temperature range and rate or depth of inhalation, and be robust enough to survive being dropped.

In February 1946 the RCOG committee decided to alter its remit in a small, but crucial, way. It would test the principle of permitting unsupervised midwives to use Trilene, rather than consider particular inhalers for approval.³⁸¹ Only the Freeman inhaler, as an established exemplar of this principle, would actually be used in the trial. This decision caused dismay at the next meeting of the Executive Committee.³⁸² Berkeley pointed out that the Freeman inhaler was clearly unsafe for use by unsupervised midwives, because of its unreliable Trilene vapour concentration, and so could never be approved by the CMB. The Executive Committee had agreed to fund this investigation specifically with the intention of getting a concrete recommendation on a particular inhaler – the Hyatt. A purely theoretical report, even if it again recommended the principle of permitting unsupervised midwives to use Trilene, would inevitably demand more research before the CMB could approve any Trilene inhaler. But Holland and Berkeley appear to have reassured the Executive Committee, and it made no formal objection to the RCOG committee's change of emphasis.

This disagreement, combined with an increasing sense of frustration as the RCOG committee's investigation continued with no apparent progress through the winter of 1946 and into 1947, appears to have prompted the Executive Committee to look for other ways in which Trilene could be studied and approved. It funded a small study of Trilene in midwifery, by a nursing sister at the British Postgraduate Medical School (BPMS).³⁸³ Though never published,

³⁸⁰ In his 1939 history of obstetric anaesthesia, Claye had criticised inhalational analgesia in general, preferring a combination of 'twilight sleep' and Read's natural childbirth method as the best way of relieving pain. He acknowledged that the ideal analgesic for use by midwives had not yet been found, but he felt confident that 'it will prove to be one of the malignant barbiturates', rather than a dangerous and nausea-inducing inhalational agent. See Claye (1939), p98.

³⁸¹ Andrew Claye, president, RCOG, to Riddick, 4 Feb 1946, WTL SA/NBT/H.14/1/2.

³⁸² NBTF Executive Committee meeting minutes, 13 Feb 1946, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁸³ See 'Unpublished report on a year's study of analgesia at the BPMS, Hammersmith, 1946-1947', WTL SA/NBT/H.5/3. The BPMS opened in 1935 at Hammersmith Hospital, as a result of

her report praised Trilene as a safe, effective and cheap mode of analgesia. And in September 1947 Barnes invited Dr Charlotte Gunderson, an anaesthetics registrar at Queen Charlotte's Maternity Hospital, to supervise a small clinical trial of midwives using the Hyatt inhaler.³⁸⁴ But Gunderson's trials foundered when the CMB refused to give permission for them, preferring to wait for the report of the RCOG committee.³⁸⁵ The CMB, meanwhile, was concerned at the effect that approving Trilene might have on the demand for nitrous oxide / air analgesia. If cheaper, lighter Trilene inhalers were to replace nitrous oxide / air, should local midwifery associations be warned to cancel their orders for Minnitt machines?³⁸⁶

By the late autumn of 1947 the RCOG committee had finished its investigation, and asked Helliwell and Hutton to produce a statistical analysis of the trial data.³⁸⁷ They sent an unofficial précis of their conclusions to Espley on 26 November. Though the RCOG committee was willing to endorse the principle of unsupervised midwives using Trilene, it could not (as the Executive Committee had feared) recommend the Freeman inhaler for this purpose.³⁸⁸ Worse followed. The RCOG had overspent on its investigation by nearly £200, including the £250 reserve, and was asking the NBTF to cover this difference. A further blow for the Executive Committee came in a letter from Dr Shila Ransom, a clinical researcher working on Trilene at University College Hospital (UCH), London. Her work had shown that Trilene was generally safe and effective, but possessed one major drawback. In 'lonely country districts' where no medical supervision was available, women would 'lie all day blowing in and out of the inhalers' and so would be far more prone to the toxic effects of the drug.³⁸⁹ An acrimonious meeting of

recommendations in the MoH's Athlone Report (1921) on postgraduate medical education. It was the first British institution dedicated to postgraduate medical education. See [Anon.]. (1955) *Hammersmith Hospital and the Postgraduate Medical School of London: a short history, 1905-1955*. London: Hammersmith Hospital; Cook GC. (2005) *John Macalister's other vision: a history of the Fellowship of Postgraduate Medicine*. Oxford: Radcliffe, chaps 7-9.

³⁸⁴ NBTF Executive Committee meeting minutes, 3 Sept 1947, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁸⁵ CMB minutes, 6 Nov 1947, in CMB minute book 1946-1951, TNA DV 1/17.

³⁸⁶ 'Memorandum of conversation between Mr Fenney and Mr Gibberd', 31 Jul 1947, TNA DV 1/17.

³⁸⁷ Beinart (1987), p133.

³⁸⁸ Claye to Espley, 26 Nov 1947, WTL SA/NBT/H.14/1/2.

³⁸⁹ Dr Shila Ransom, UCH, to Riddick, 3 Dec 1947, WTL SA/NBT/H.14/1/2.

the Executive Committee eventually accepted the RCOG's report, and approved the extra £200.³⁹⁰

At this point, the popular press began to take an interest in Trilene. In early December 1947 Dr John Hayward-Butt, a South African anaesthetist, announced in the *Lancet* that he had developed a pocket-sized Trilene inhaler, marketed as the 'Trilite'.³⁹¹ This device consisted of a short metal tube, which contained a glass ampoule of Trilene, an absorbent wick and a nozzle. When the ampoule was broken, by striking the base of the device, liquid Trilene passed up the wick, and could be inhaled through the nozzle or a detachable mask. Hayward-Butt had intended his device to be used for military and industrial first aid, but noted in his paper that it might be suitable for midwifery. Within days, both the *News Chronicle* and the *Daily Mirror* had seized on the Trilite as a 'pocket pain-killer to aid wives ... major news for women'.³⁹² These reports, and subsequent public interest in Trilene, prompted the MoH and the CMB to ask the RCOG if the publication of its report could be brought forward.³⁹³

Official and medical reactions to the RCOG's report, formally published at the end of January 1948, were generally negative.³⁹⁴ In an editorial the *Lancet* claimed that the decision had caused 'widespread disappointment' among the medical profession, and the *Nursing Times* reported similar discontentment amongst midwives.³⁹⁵ A letter written by Walker some two years later suggests that this sense of disappointment extended to the CMB. Walker criticised what he saw as the 'extreme caution of Sir William Gilliatt [one of the members of the RCOG committee, and president of the RCOG at the time Walker wrote] and the closed-shop mentality of certain anaesthetists' on the investigation committee, which 'did very little in spite of a good deal of prodding of Gilliatt and Claye by me'.³⁹⁶ The Executive Committee was equally

³⁹⁰ NBTF Executive Committee meeting minutes, 7 Jan 1948, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁹¹ Hayward-Butt J. (1947) Trilene analgesia. Simple apparatus for self-administration. *Lancet* II: 865-867. This article includes diagrams and photographs of the Trilite inhaler.

³⁹² [Anon.]. (1947d) New pocket pain-killer to aid wives. *Daily Mirror* (12 Dec): 5; [Anon.]. (1947e) Freedom from pain secret out. *News Chronicle* (12 Dec): 7.

³⁹³ See, for example, C Southgate, MoH, to Fenney, 22 Dec 1947, TNA DV 6/6.

³⁹⁴ RCOG (1948).

³⁹⁵ [Anon.]. (1948a) Trichlorethylene as an analgesic in labour. *Lancet* I: 312-313; [Anon.]. (1948b) Trilene as an analgesic in labour. *Nursing Times* (19 Mar): 24.

³⁹⁶ Walker to Charles, 9 Jun 1950, TNA DV 6/6. On Gilliatt, see Peel J, 'Gilliatt, Sir William (1884-1956)', *ODNB*.

dissatisfied. Although Rhys-Williams felt the NBTF 'bound to press on with investigations into more suitable apparatus', it simply could not afford to fund another large investigation on the subject.³⁹⁷ In a footnote to their press release on the Analgesia in Childbirth Bill, released in the spring of 1949, the Executive Committee claimed that three models of Trilene inhaler already satisfied the RCOG's specifications, and should be tested immediately.³⁹⁸

More popular press interest in Trilene was generated by the birth of Prince Charles in November 1948. The *Evening Standard*, the *Star* and the *Daily Mirror* claimed that Gilliatt, who was to attend Princess Elizabeth in her confinement, would be offering her the use of a Trilite inhaler.³⁹⁹ These articles cited an unnamed spokesman for the NBTF, who compared this case to the use of chloroform by Queen Victoria, and also claimed that the NBTF was putting pressure on the CMB and MoH to approve Trilene for use by unsupervised midwives. This campaign is not mentioned in the Executive Committee's minutes and it appears that Rhys-Williams was working privately on this subject. She capitalised on public interest in the royal birth in an article in the *News of the World*, published later that month, in which she called for further government-sponsored research on Trilene.⁴⁰⁰

By the spring of 1949, a number of factors encouraged further work on Trilene as an analgesic for use by unsupervised midwives. Press interest in Trilene had persisted beyond the birth of Prince Charles. The NBTF continued its campaign for the approval of the drug for unsupervised midwives, and was now publicly involved in the Analgesia in Childbirth Bill. A paper by Frank Neon Reynolds, advisor on obstetrics to Hertfordshire Council and an associate of Elam, in the *BMJ* in March 1949 rejected the conclusions of the RCOG, and called for a larger trial of Trilene inhalers.⁴⁰¹ Finally, the MoH working party on midwifery published its report in January 1949. This document recommended that 'the Medical Research Council

³⁹⁷ NBTF Executive Committee meeting minutes, 18 Feb 1948, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

³⁹⁸ 'NBTF statement on Analgesia in Childbirth Bill', undated (? spring 1949), WTL SA/NBT/H.6/5.

³⁹⁹ Respectively, [Anon.]. (1948c) Childbirth drug. *Evening Standard* (8 Nov): 14; [Anon.]. (1948d) Self-help drug for Princess Elizabeth. *The Star* (8 Nov): 6; [Anon.]. (1948e) Princess can stop pain as she breathes. *Daily Mirror* (12 Nov): 2; [Anon.]. (1948f) Mothers want the Princess's drugs. *Evening Standard* (15 Nov): 7.

⁴⁰⁰ Rhys-Williams (1948).

⁴⁰¹ Neon Reynolds F. (1949) Trilene as an analgesic in labour. Report of the Royal College of Obstetricians and Gynaecologists. *BMJ* I: 537-538.

should be asked to set up a committee urgently to find a more effective method of analgesia for use by midwives'.⁴⁰² This new committee – the CAM – was established at a meeting of the MRC in February 1949.⁴⁰³ Later that year, the report of the MoH medical supplies working party concluded that 'an analgesic apparatus is definitely required in the delivery room', and recommended that maternity wards in all new NHS hospitals be equipped with equal numbers of Minnitt machines and Friedman Trilene inhalers.⁴⁰⁴ A private letter from Stocks to Bevan, written shortly after the publication of the report of the medical supplies working party, suggests that the working party on midwifery's interest in 'a more effective method of analgesia' was closely focused on Trilene. Stocks accused the medical profession of trying to keep this new method of analgesia out of the hands of midwives:

I think the promoters of the Analgesia in Childbirth Bill are barking up the wrong tree...

The real offenders are the medical profession who have not got on with the job of perfecting the Trilene apparatus. According to [the RCOG's report on Trilene] they are on the verge of devising a suitable apparatus for this apparently harmless and far more effective analgesic. In our report we suggest that the Medical Research Council be given a push. Doctors are human and it is perhaps understandable that they are not apparently anxious to alter the position in which they can do something that midwives cannot.⁴⁰⁵

Jameson, as CMO, defended the MRC – 'it is quite clear that a number of people imagine that the MRC through its Committee will only have to look at one or two bits of apparatus, suggest minor modification and so provide an answer to this outcry regarding analgesia' – and preparations for its investigation continued.⁴⁰⁶ But before the CAM could meet, its membership

⁴⁰² Stocks (1949), p22. On the working party on midwifery, see section 3.1.

⁴⁰³ MRC minutes of council, 18 Feb 1949, TNA FD 6/8. On the CAM's activities, see Landsborough Thomson A. (1987) *Half a century of medical research*. 2 vols. London: MRC, vol 2, p37. On the MRC's programme of clinical research in the first half of the twentieth century, see Booth CC, 'Clinical research', in Austoker J, Bryder L. (eds) (1989) *Historical perspectives on the role of the MRC*. Oxford: Oxford University Press, pp205-241.

⁴⁰⁴ 'Report of medical supplies working party, obstetric and gynaecological group', Dec 1949, TNA MH 77/145.

⁴⁰⁵ Stocks to Bevan, 18 Mar 1949, TNA MH 134/144.

⁴⁰⁶ Sir Wilson Jameson, CMO, to Sir Edward Mellanby, MRC, 25 Mar 1949, MH 134/144.

and structure had to be agreed. Should the MRC's existing anaesthetics committee – founded in 1924, but by 1949 seen by many as 'a distinguished ghost' possessing only 'a certain window-dressing value' – be responsible for the investigation?⁴⁰⁷ Or should a new but less experienced committee be appointed? And could the investigation begin where the earlier RCOG study had ended, or should it start again from scratch?

Personal relationships, too, had to be taken into consideration. Sir Edward Mellanby, secretary of the MRC, suggested they reactivate the existing anaesthetics committee, with Gilliatt as chairman and Geoffrey Organe, anaesthetist to the Westminster Hospital, as secretary.⁴⁰⁸ Organe's influence would offset what the MRC and CMB saw as Gilliatt's tendency to caution. Organe, though, did not get on well with Macintosh, whose clinical reputation demanded a place on the CAM. The CAM should also include Hewer, both as the original researcher on Trilene and as editor of *Anaesthesia*. But Hewer and Macintosh were 'rarely on speaking terms'.⁴⁰⁹ Mellanby insisted that the CAM must have a woman, and Barnes was the obvious candidate; but would she be impartial, given her involvement with the NBTF? By mid-April 1949 these difficulties had been surmounted and the CAM members – mainly younger clinicians – had been appointed. Gilliatt and Lloyd, the new president of the RCOG, agreed that initial work would be carried out by the MRC alone. Later clinical trials of new Trilene inhalers would be supervised by a joint sub-committee of CAM and RCOG representatives.⁴¹⁰ The *Daily Telegraph* welcomed the CAM, but warned readers that its work would take some time.⁴¹¹

The CAM met for the first time on 11 May.⁴¹² By the end of the meeting, Mellanby had narrowed its broad remit to an investigation of Trilene inhalers. The technical specification set

⁴⁰⁷ Green outlined the history of the anaesthetics committee in a letter to Dr FJC Herrald, SMO at the MRC, in 1954. See Dr Frank Green, MRC, to Dr FJC Herrald, MRC, 22 Dec 1954, TNA FD 1/1676.

⁴⁰⁸ On Organe, see Boulton (1999), p596.

⁴⁰⁹ 'Note of a meeting between Sir Edward Mellanby and Sir William Gilliatt, 10 Mar 1949', TNA FD 1/7121.

⁴¹⁰ Green outlined this agreement in a letter to Mallon in June 1951. See Green to Mallon, 20 Jun 1951, RCOG T12.

⁴¹¹ [Anon.]. (1949h) Painless birth research. Sir W Gilliatt head of new committee. *Daily Telegraph* (7 May): 2. The *Star*, on the other hand, found Barnes' 'slight and dark looks with clear blue eyes and a merry smile' far more newsworthy than her capabilities as a clinician. See [Anon.]. (1949i) Charm and skill. *The Star* (7 May): 5.

⁴¹² 'CAM minutes of first meeting', 11 May 1949, TNA FD 1/7118.

out in the RCOG report were accepted, with some small updates and modifications, as the basis for the CAM's study. This report had, the CAM agreed, demonstrated the validity of the principle of allowing unsupervised midwives to administer Trilene analgesia. The CAM would produce concrete recommendations on particular inhalers for this purpose. Copies of the RCOG specification were sent to manufacturers of existing Trilene inhalers, with letters asking them to submit new prototype inhalers for consideration as quickly as possible.⁴¹³

At this point, the members of the CAM decided to divide their investigation into two parts. The first would consist of laboratory tests, based on the RCOG committee's specifications, of all inhalers submitted to the CAM. If an inhaler did not meet the specifications, it would be returned to its manufacturers with a full report and recommendations for improvements. If it met the specifications, it would pass on to the second part – a clinical trial by midwives, under the direct supervision of anaesthetists or obstetricians. Dr Frank Green, the MRC's new principal medical officer (PMO), initially hoped to have the laboratory tests carried out at the National Institute for Medical Research (NIMR) in Hampstead, but the NIMR's impending move to Mill Hill made this impossible.⁴¹⁴ By November 1949 Green was forced to ask Macintosh if his laboratories in the NDA would be able to take the work on. Macintosh hesitated, but agreed when he was offered the services of Dr John Gray, then an MRC scientific officer working on experimental physiology at the NIMR, and MRC funding to cover any expenses.⁴¹⁵

Macintosh's involvement with the CAM, and particularly with the first part of its investigation, was characterised by a series of protests against its methodology.⁴¹⁶ He had voiced his misgivings about the RCOG report as early as October 1948. 'If the present inhalers

⁴¹³ 'Circular to manufacturers', 14 Sept 1949, TNA FD 1/1688. The MRC archives contain extensive correspondence between the manufacturers and the CAM, along with blueprints for their inhalers and technical notes. This material is not explored here, but might provide a useful case study of material culture in post-war British medical research.

⁴¹⁴ In 1949 Green was promoted from assistant secretary and publications officer to principal medical officer at the MRC.

⁴¹⁵ Green to Prof Robert Macintosh, NDA, 10 Nov 1949; Macintosh to Green, 11 Nov 1949, TNA FD 1/1688. Gray was later professor of physiology at University College London and, from 1968, secretary of the MRC. See Landsborough Thompson (1975), vol 1, p288.

⁴¹⁶ Beinart argues that Macintosh's actions reflected competition between the NDA and the RCOG in testing the new Trilene inhalers. She quotes him as saying that he wanted to obtain data on the appropriate concentration of Trilene for obstetric analgesia 'before the chaps in London got them'. See Beinart (1987), pp133-134.

are modified to be safe according to the [RCOG] specifications', he argued, 'they will be practically useless in the great majority of cases'.⁴¹⁷ Overly strict adherence to a technical specification was, he believed, more likely to waste time and money, not to mention bench space in the NDA's small and overcrowded laboratory, than to increase the safety of inhalers. More than this, he had a professional and personal interest in the trials. Macintosh and Dr JG Epstein, the NDA's resident physicist and engineer, had designed the 'Emotril' inhaler, one of the first to be submitted to the CAM.⁴¹⁸ Though the Emotril did not have an automatic temperature compensator, Macintosh felt that it was 'a very adequate method, certainly a great improvement on the present recognised forms of relief'.⁴¹⁹ He urged the CAM to bend its specification and approve it. Following their initial refusal to do so, Macintosh resigned.⁴²⁰ He was persuaded to stay on as an advisor to the CAM, and sent Epstein to the meetings in his stead.⁴²¹ Green wanted to keep Macintosh interested in the proceedings of the CAM, as much for the prestige and authority lent by his reputation as for his practical contributions. He arranged for clinical tests of a small number of Emotril inhalers to begin, before this design had officially met the technical specification.

Through 1950 and 1951, the CAM continued with its programme of laboratory trials. Meetings became less and less frequent. Practical problems, such as finding a cheap and simple test for Trilene vapour concentration, had to be addressed.⁴²² Some manufacturers began to tire of what seemed like an endless cycle of testing, recommendations, modifications and retesting without any hope of a return on their increasingly large investments in the project. Medical and Industrial Equipment Ltd, the manufacturers of the Emotril inhaler, complained to Macintosh about the CAM's dismal rate of progress. This sparked a year-long round of unfriendly

⁴¹⁷ Macintosh RR. (1948) Trilene as an analgesic. *BMJ* II: 691.

⁴¹⁸ The 'Emotril' was a modification of the Epstein Macintosh Oxford (EMO) inhaler, designed during World War II as a safe and robust inhaler for use by paratroop medical teams. On the development of the Emotril, see Beinart (1987), chap 3. Macintosh later recalled that he came up with the idea for the EMO inhaler in 1937 while working as a field anaesthetist with the International Brigades in the Spanish Civil War. See Macintosh's comments in 'Prof Robert Macintosh interviewed by James E Eckenhoff', Wood Library-Museum of Anaesthesia, 1983, VHS, 26min.

⁴¹⁹ Macintosh to Green, 15 Dec 1949, TNA FD 1/1688.

⁴²⁰ Green to Gilliatt, 19 Dec 1949, TNA FD 1/1688.

⁴²¹ Green to Gilliatt, 16 Jan 1950, TNA FD 1/1688.

⁴²² 'CAM: minutes of sixth meeting', 28 Jul 1950, TNA FD 1/7118.

correspondence.⁴²³ Not only the manufacturers were disappointed. Walker described the CAM as 'more difficult and slow than the old [RCOG committee on Trilene] and although the technical problem seems now to have been solved, nothing now is happening'.⁴²⁴

In June 1951 members of the CAM decided that preparations could now be made for clinical trials of the inhalers. Green approached the RCOG, to discuss the formation of the joint sub-committee for this purpose.⁴²⁵ At a council meeting in July 1951, the RCOG nominated Claye, Gilliatt, Macintosh, Marston and Chassar Moir – all members of the RCOG committee which had produced the 1947 report on Trilene – as its representatives, on the understanding that 'the cost of the investigation would not fall upon the College'.⁴²⁶ This sub-committee met for the first time in November 1951.⁴²⁷

An emergency meeting between the CAM and manufacturers in late December 1951 caused further controversy.⁴²⁸ Here it was announced that Dr Thomas HS Burns, a clinical research fellow working under Marston at Guy's Hospital, had developed a new type of inhaler. Burns' design was based on a new principle: the regulation of vapour concentration by a needle valve, rather than a rubber bellows controlled by a bimetallic strip (the method used in all existing inhalers to compensate for the effect of temperature change). His work was not entirely new: the CAM had known of its existence since September, when they had examined a 'rough inventor's model'.⁴²⁹ From the CAM's extant papers, it is difficult to say why the announcement of its existence was made in such a precipitate manner. It did nothing to reassure the manufacturers, already concerned about the security of their investments. In the month after the meeting many wrote to Green, asking if their inhalers were to be thrown out of the study.⁴³⁰ Burns' inhaler was ultimately not taken up by the CAM. He appears to have antagonised Professor Aubrey Burstall,

⁴²³ See, for example, Macintosh to Sir William Gilliatt, RCOG, 14 Jun 1952, TNA FD 1/7120.

⁴²⁴ Walker to Charles, 9 Jun 1950, TNA DV 6/6.

⁴²⁵ Green to Mallon, 20 Jun 1951, RCOG T12.

⁴²⁶ Extract from RCOG council minutes, 28 Jul 1951, RCOG T12.

⁴²⁷ 'Minutes of first joint sub-committee meeting', 26 Nov 1951, TNA FD 1/1689.

⁴²⁸ 'Minutes of a conference on Trilene inhalers', 21 Dec 1951, TNA FD 1/1690.

⁴²⁹ Green to Dr John Gray, MRC, 26 Sept 1951, TNA FD 1/1696.

⁴³⁰ See, for example, GEJ Dickinson, Airmed Ltd, to Green, 29 Dec 1951, TNA FD 1/1690.

the CAM's advisor on endurance testing, by writing to him personally on the testing of his inhaler, and by questioning Burstall's criticisms of it.⁴³¹

Disputes over Burns' inhaler continued for more than a year before it was discarded, and contributed to the delays in beginning the clinical tests of other inhalers. It was not until the autumn of 1952, after a further three-month detour into the possibility that the decomposition of Trilene into toxic phosgene might be hastened by exposure to sunlight, that a large-scale programme of clinical trials began.⁴³² Trilene inhalers would be sent to county MOsH, who would distribute them to their midwives, along with suitably prepared record forms. Dr Richard Doll and Professor Austin Bradford Hill of the London School of Hygiene and Tropical Medicine (LSHTM) were appointed to carry out a statistical analysis of the results.⁴³³

A further problem here was the acquisition of inhalers for the trial. No provision had been made in the CAM's budget for this, and the manufacturers involved in the trial were generally unwilling to supply more prototype inhalers without payment. Barnes suggested the CAM approach the NBTF for funds. Green 'did not think that the MRC could properly go cap in hand to the Trust', but claimed, optimistically, that 'the Trust has considerable funds at its disposal, and is at present at something of a loss to know what to do with them'.⁴³⁴ He asked Barnes to approach the NBTF privately, with a request for two to three hundred pounds. The Executive Committee approved this immediately but, in the topsy-turvy manner demanded by MRC protocol, had first to write to the secretary of the MRC, Sir Harold Himsworth, offering a seemingly unprompted contribution to the CAM's funds.⁴³⁵ Negotiations over the size of the grant took nearly a year, the MRC being reluctant to discuss figures, and a grant of £500 was approved by the NBTF in September 1952.⁴³⁶

⁴³¹ Dr Thomas HS Burns, department of anaesthesia, Guy's Hospital, to Prof Aubrey Burstall, University of Durham, 13 Oct 1953; Burstall to Burns, 20 Oct 1953, TNA FD 23/1667.

⁴³² On the possible toxicity of Trilene decomposition, see the correspondence in TNA FD 1/7120.

⁴³³ See Dr Richard Doll, LSHTM, to Dr Richard Cohen, medical officer, MRC, 12 Mar 1952, TNA FD 1/1691. On Doll, see Lock S, 'Doll, William Richard Shaboe', in Bynum & Bynum (2007), vol 2, pp426-428. On Bradford Hill, see Doll R, 'Hill, Sir (Austin) Bradford [Tony] (1897-1991)', *ODNB*.

⁴³⁴ 'Minutes of first joint sub-committee meeting', 26 Nov 1951, TNA FD 1/1689.

⁴³⁵ On Himsworth, see Gray J, 'Himsworth, Sir Harold Percival (1905-1993)', *ODNB*.

⁴³⁶ Riddick to Sir Harold Himsworth, secretary, MRC, 23 Sept 1952, WTL SA/NBT/H.4/2.

This negotiation appears to have re-awakened the Executive Committee's interest in Trilene. 1953 was the year of the NBTf's twenty-fifth anniversary, and the Executive Committee raised the possibility that an advance announcement of the CAM's conclusions might be made at their anniversary garden party. Barnes was asked to find out if this might be thought appropriate, but she refused.⁴³⁷ Instead, Rhys-Williams made a direct approach to Himsworth, who turned down the offer. 'Such an unusual method of publishing the results of scientific work' was, he replied, 'undesirable from more than one point of view'.⁴³⁸ This rejection did not deter the NBTf completely from pursuing the subject of Trilene. Their anniversary radio appeal, read by the actress Celia Johnson and broadcast by the BBC in November 1953, made an oblique reference to 'an even better method for relieving pain' that would 'soon be approved for use in the home as well as hospital'.⁴³⁹

Less welcome attention came from Keith Waterhouse, then a campaigning journalist at the *Daily Mirror*. Throughout September 1953 the *Mirror* published a number of articles, in which Waterhouse urged the MoH to release the details of what he called 'black spots' – the ten boroughs in which the rates of analgesia in domiciliary confinements were lowest.⁴⁴⁰ Waterhouse quoted from a 'dossier' provided by Rhys-Williams, in which she claimed that only six in ten home births in Britain received adequate pain relief, and that this shortfall was due mainly to the apathy of local MOsH and domiciliary midwives. During an off-the-record meeting with Waterhouse, MoH officials admitted that 'the use made of the existing facilities is capable of some expansion'.⁴⁴¹ They refused to identify any 'black spots', and insisted that the imminent approval of Trilene would improve the situation.

By the spring of 1954, the CAM's clinical trials and the statistical analysis of their results were complete. The joint sub-committee began to look beyond the end of the trial, to the practicalities of Trilene use. How, for example, would the inhalers be tested and serviced to the specification? After a series of meetings with the MoH and CMB, the CAM asked the National

⁴³⁷ Josephine Barnes, Queen Charlotte's Maternity Hospital, to Riddick, 20 Feb 1953, WTL SA/NBT/H.4/2.

⁴³⁸ Himsworth to Riddick, 2 Apr 1953, WTL SA/NBT/H.4/2.

⁴³⁹ 'Text of broadcast', 29 Nov 1953, WTL SA/NBT/U.11/9.

⁴⁴⁰ See, for example, [Anon.]. (1953a) Editorial. Queerer and queerer. *Daily Mirror* (15 Sept): 9; Waterhouse K. (1953) Why should mothers scream in agony? *Daily Mirror* (26 Sept): 7.

Physical Laboratory (NPL) at Teddington to provide a mandatory six-monthly service for all approved inhalers. The NPL agreed, with the proviso that it would be permitted to charge a small fee for each test, so as not to drain its limited post-war budget.⁴⁴² The CAM met for the final time in February, in order to approve the final draft of the report.⁴⁴³ Advance copies were sent to concerned organisations in the late spring and early summer.⁴⁴⁴ Iain Macleod, then Conservative Minister of Health, made a formal announcement of the CAM's conclusions in a written reply to a parliamentary question, at the end of July 1954, just after the beginning of the parliamentary recess.⁴⁴⁵

The CAM published its report on 17 Dec 1954.⁴⁴⁶ It concluded that Trilene was as safe as, and more effective than, the Minnitt machine, when given via an inhaler that conformed to the CAM's specifications. It also recommended the approval of two inhalers – the Tecota, and a temperature-regulated version of the Emotril – for use by unsupervised midwives. Press interest was immediate and positive. The *Daily Sketch* welcomed a 'new deal for mothers' with 'painless childbirth at home available to all'.⁴⁴⁷ The *Times*, more circumspect, praised the long and careful consideration that had gone into the preparation of the report.⁴⁴⁸ And in the *Star* Rhys-Williams drew attention to the NBTF's role in this 'big step along the road to safe and relatively painless childbirth'.⁴⁴⁹

Trilene inhalers appear to have entered service without further controversy. By the end of 1955 the CMB recorded the approval of 615 new Trilene inhalers, 229 of which were for use by domiciliary midwives.⁴⁵⁰ Similar data released at the end of 1956 suggest that around 900

⁴⁴¹ 'Statement to Keith Waterhouse of the *Daily Mirror*', Sept 1953, TNA MH 134/142.

⁴⁴² 'Minutes of MoH and MRC meeting to discuss MRC report on analgesia', 2 Apr 1954, TNA MH 55/1603.

⁴⁴³ 'Minutes of joint MRC/RCOG committee meeting', 23 Feb 1954, TNA FD 1/7123.

⁴⁴⁴ The NBTF received an advance copy of the report on 25 June. See Cohen to Riddick, 25 Jun 1954, WTL SA/NBT/H.4/2.

⁴⁴⁵ [Anon.]. (1954a) Midwives to use anti-pain drug. *Daily Telegraph* (31 Jul): 8.

⁴⁴⁶ MRC. (1954) *The use of Trilene by midwives: by the committee on analgesia in midwifery*. MRC memorandum no. 30. London: HMSO.

⁴⁴⁷ Gardner A. (1954) Painless childbirth for all! *Daily Sketch* (3 Dec): 2.

⁴⁴⁸ [Anon.]. (1954b) New childbirth drug approved. Research council's investigation. *The Times* 53111 (17 Dec): 5.

⁴⁴⁹ Rhys-Williams J. (1954) A boon for mothers. *The Star* (30 Dec): 6.

⁴⁵⁰ MRC memorandum to Cohen, 4 Nov 1955, TNA FD 23/1668.

inhalers were then in use in hospitals or domiciliary practice.⁴⁵¹ After this point, Trilene is mentioned only occasionally in MoH or CMB minutes and correspondence. Later trials of inhalational analgesics for use by midwives borrowed the CAM's specification for inhalers.⁴⁵² In July 1965 the British Standards Institute (BSI) took over the responsibility for providing six-monthly services for Trilene inhalers.⁴⁵³ A draft drugs and therapeutics bulletin on 'analgesia in normal labour', sent by MoH officials to the CMB in August 1967, emphasised the popularity of Trilene as an analgesic in childbirth.⁴⁵⁴ Its authors cited the effective analgesia provided by the drug, the portability of its inhalers and the low cost per patient, while playing down its tendency to cause drowsiness if used for long periods. In June 1971 the CMB reaffirmed its approval of Trilene for use by unsupervised midwives, along with more recently approved agents such as Entonox.⁴⁵⁵

The history of the two Trilene investigations described in this section reflects a comment made by Organe in 1950. Making analgesic agents safe for midwives to use was not, he said, 'solely a matter of engineering'.⁴⁵⁶ Tensions around these investigations operated in at least two dimensions. First, between the investigating committees' desire for autonomy, and the funding bodies' concern over the outcome of their work. Second, between the individual members of the investigating groups themselves. These tensions focused on the specification for Trilene inhalers. The specification adopted by the CMB in 1955 was based on one drawn up in 1946 by a committee of the RCOG. It was, paradoxically, the contested nature of this specification that was largely responsible for the delay. The RCOG committee had conceived the specification as a comprehensive set of guidelines, ensuring the safety and efficiency of Trilene inhalers. But by the early 1950s, the NBTF and some clinicians saw it as too rigid, preventing inhalers that were perfectly safe from receiving CMB approval, and resulting in a near-endless cycle of redesign

⁴⁵¹ *Hansard* fifth series (564) 4 Feb 1957: col 26.

⁴⁵² See section 4.3.

⁴⁵³ CMB minutes, 1 Jul 1965, in CMB minute book 1961-1973, TNA DV 1/20. In March 1971 the requirement for six-monthly servicing was temporarily extended, to cover delays caused by a national postal strike. See CMB minutes, 4 Mar 1971, in CMB minute book 1961-1973, TNA DV 1/20.

⁴⁵⁴ 'Drugs and therapeutics bulletin (draft)', Aug 1967, TNA DV 11/220.

⁴⁵⁵ CMB minutes, 1 Jun 1972, in CMB minute book 1961-1973, TNA DV 1/20.

⁴⁵⁶ Dr Geoffrey Organe, anaesthetics department, Westminster Hospital, to Green, 10 Mar 1950, TNA FD 1/7120.

and retesting. Had mothers been deprived of the benefits of Trilene because its investigators were too much concerned with maternal safety? This represents a remarkable inversion of the arguments deployed in other investigations of analgesic techniques. The approval of Trilene inhalers was, in part, delayed by arguments over whether the new apparatus had been made too safe. Pethidine – the subject of the next section – was controversial for the opposite reason.

4.2. Pethidine.

On 1 April 1950 – not an auspicious date – amendments to the Home Office’s dangerous drugs regulations and the CMB’s rules for midwives came into force. These enabled midwives in England and Wales to carry and administer the synthetic opioid pethidine to women in childbirth, without direct medical supervision.⁴⁵⁷ Those involved in the campaign to approve pethidine saw this new arrangement as possessing many advantages. Most obviously, mothers giving birth at home in England and Wales might suffer less pain. But other, less tangible benefits might be conferred on the organisations that had been involved in the campaign for pethidine. Midwives, and through them the CMB, would gain new respect and status, a status that had (in official eyes at least) been in decline since the First World War. Central government, in the shape of the Home Office and MoH, would be seen to be continuing its contribution to the health of the nation. The NBTF Executive Committee, which had worked for three years to make pethidine available to mothers via midwives, could record another well-publicised victory in its campaign for pain relief in childbirth.

Williams presents this clear-cut account of the approval of pethidine for midwives in her history of the NBTF.⁴⁵⁸ It is incomplete, in one crucial dimension. By focusing on the Executive Committee’s involvement with pethidine, Williams misses a striking detail. The Executive Committee, the CMB, the MoH and the obstetrician who carried out the first major British clinical trial of the drug all agreed on one point: pethidine had little power as an analgesic. It was highly variable in its efficacy, better than nothing, but only just. The drug’s benefits lay in

⁴⁵⁷ ‘Amendment to dangerous drugs regulation, Statutory instrument 1950 no. 380’, TNA MH 55/1585.

⁴⁵⁸ Williams (1997), pp143-144.

its safety and ease of administration, and these benefits were more immediately perceptible to the practitioners who administered pethidine than to the mothers who received it.

By reframing the history of pethidine for midwives around the widespread contemporary acknowledgement of its weakness as an analgesic, and by incorporating material from governmental archives and the popular press, a new set of conclusions can be drawn. The introduction of pethidine was predicated not on its efficacy as an analgesic, but on its safety, on its suitability for administration by midwives working without medical supervision. Official, medical and voluntary organisations saw public support for, and trust in, midwives to be as important as more apparently humanitarian and utilitarian questions of pharmacological efficacy. The high level of press interest in the subject – much of it initiated by the NBTF – also helped to ensure that, in this period, analgesia in childbirth had not only to be done, but also seen to be done.

Pethidine was developed in 1939 by Eisleb and Schaumann at the University of Hamburg.⁴⁵⁹ They initially intended the drug to be used as a sedative in psychiatric practice. Later that year Dietrich, a physiologist at Hamburg, published evidence of its effect as an analgesic. Despite the outbreak of war, the drug aroused great interest in Britain and the United States, where several clinical trials were initiated in the early 1940s. One of the largest took place in the obstetric unit at UCH, where pethidine was given to 500 women in childbirth between 1942 and 1946. Barnes, then a junior obstetrician in the unit, was the principal researcher on the project. She published the results of her research in the *BMJ* in April 1947.⁴⁶⁰ By this time, she had moved to Queen Charlotte's Maternity Hospital, and had joined the Executive Committee. Despite the generally optimistic tone of its conclusions, her paper emphasised the limitations of the drug. Its advantages were its safety, its lack of toxic effects, and the simplicity of its administration. But it produced analgesia in only 55% of mothers in the study, and tended to lengthen the first stage of childbirth (by seven hours, on average). The role of the drug on the maternity ward could, in Barnes' view, best be described as supporting.⁴⁶¹

⁴⁵⁹ On the origins of pethidine, see Barnes J. (1947) Pethidine in labour: results in 500 cases. *BMJ* I: 437-442, p437.

⁴⁶⁰ *Ibid.*

⁴⁶¹ *Ibid.*, p441.

Barnes' caution over the merits of pethidine as an analgesic was reinforced by what she saw as the irresponsible attitude of popular press journalists, who tended to sensationalise technical developments in the maternity services. A few weeks after her research had been published, Barnes received a letter from a Mrs Ruby Clift of Surrey.⁴⁶² Clift had recently given birth in an LCC maternity home, and for pain relief had received only a single shot of pethidine. When she asked the Matron why a Minnitt machine had not been available, Clift had been given:

... a newspaper cutting reporting the use of the drug Pethidine, which a woman doctor, Josephine Barnes, had used at University College Hospital, for 500 mothers, and which would make painless childbirth possible for all mothers.⁴⁶³

In her reply to Clift, Barnes criticised what she saw as a serious misrepresentation of her research.⁴⁶⁴ Clift also reported her experiences to Rhys-Williams at the NBTF. Rhys-Williams responded by downplaying the significance of the new drug:

I am perfectly aware of the fact that pethidine is of very little use in relieving pain in childbirth... We have got to push on the campaign for gas and air analgesia pending the discovery of an even more satisfactory method, which may not be very long delayed.⁴⁶⁵

Rhys-Williams' personal view of pethidine reflected the NBTF's official position on the subject. NBTF-sponsored research by Sister Kathleen Kane at the BPMS in 1946 had found pethidine to be cheap and safe, but basically ineffective.⁴⁶⁶ In any case, the NBTF believed at this time that it had a superior method of analgesia, suitable for use by unsupervised midwives, in development. Trilene, and indeed the Minnitt machine, were known to be more effective than

⁴⁶² The contents of Mrs Clift's letter to Barnes are described in a letter to Rhys-Williams. See Clift to Rhys-Williams, 25 Apr 1947, WTL SA/NBT/H.6/2. I have been unable to identify the press report on pethidine mentioned in this letter.

⁴⁶³ Ibid.

⁴⁶⁴ Ibid.

⁴⁶⁵ Rhys-Williams to Clift, 1 May 1947, WTL SA/NBT/H.6/2.

⁴⁶⁶ 'Unpublished report on a year's study of analgesia at the BPMS, Hammersmith Hospital', 1947, WTL SA/NBT/H.5/3.

pethidine: why should the NBTF campaign for a drug that was simply not as good as the nitrous oxide – air it had promoted for two decades?

A further drawback to pethidine was its status as a drug of addiction. Since 1943 a small but steady number of pethidine addicts had been exposed in the press, and in February 1946 the Home Office had placed the drug on its dangerous drugs list.⁴⁶⁷ This made it available only to registered medical practitioners, in restricted quantities. Articles in the medical and lay press compared pethidine to heroin in its powers, and criticised the lax controls on addictive drugs.⁴⁶⁸ This made any argument for its declassification and distribution to non-medical practitioners difficult to sustain. Not even Elam, perhaps the most vocal supporter of the NBTF in its campaign for pain relief in childbirth, could bring himself to advocate the drug for midwives. In his 1947 booklet on obstetric analgesia, endorsed and distributed by the Executive Committee, Elam lambasted in lurid terms the MoH, CMB and most British obstetricians for obstructing the cause of pain relief in childbirth. Pethidine, however, merited only a single, equivocal remark.⁴⁶⁹

The Executive Committee's attitude towards pethidine began to change when it received the RCOG committee's report on Trilene in November 1947.⁴⁷⁰ In failing to recommend any Trilene inhalers for CMB approval, this report deprived the Executive Committee of the technique it had come to see as the next step on from the Minnitt machine in its campaign for obstetric analgesia. By April 1948 the Executive Committee were prepared to consider less effective methods, if they had other advantages:

[P]otency is a less significant consideration than safety or ease of use... pethidine is safe for mother and baby, it can (unlike the Minnitt) be carried in the midwife's bag and unlike the Minnitt it requires no additional training.⁴⁷¹

⁴⁶⁷ [Anon.], (1947f) A death from pethidine. *BMJ* **I**: 548.

⁴⁶⁸ See, for example, Polonio P. (1947) Pethidine addiction. *Lancet* **I**: 592-594; [Anon.], (1947g) Traffic in narcotics. Difficulties in control of synthetic drugs. Need for a new world convention. *The Times* **50919** (15 Nov): 5.

⁴⁶⁹ Elam (1947), p8.

⁴⁷⁰ RCOG (1948). This report was officially published in Jan 1948.

⁴⁷¹ NBTF Executive Committee meeting minutes, 23 Apr 1948, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

Crucially, it could be recommended to the CMB with no new, expensive and time-consuming investigations by the RCOG. Following the meeting Barnes visited Chassar Moir in Oxford to ask for his support as a senior fellow of the RCOG. After discussing Barnes' work on pethidine, Chassar Moir was prepared to agree to its use by midwives, provided that administration was restricted to a total of 300mg given in three doses every three hours. Barnes and Chassar Moir drafted a memorandum on the use of pethidine by midwives. This downplayed queries over the efficacy of the drug, and emphasised its safety.⁴⁷²

Claye's signature added the formal authority of the RCOG to the memorandum, and in early June a copy was sent to the CMB. In a covering note Humphrey Arthure, the RCOG's honorary secretary, solicited the CMB's support in the matter and asked its chairman to sound out the MoH.⁴⁷³ Would they support an application to the Home Office to remove pethidine from the dangerous drugs list? In her reply, she formally offered formal MoH support for pethidine.⁴⁷⁴ In July the secretary of the CMB wrote to James Chuter Ede, Home Secretary and leader of the Commons, requesting an amendment to the Home Office's dangerous drugs regulations.⁴⁷⁵ This would enable midwives to carry and administer pethidine, without the supervision of a medical practitioner. But when the Executive Committee reconvened in September 1948, its members were disappointed to have received no reply from the Home Office.⁴⁷⁶ Rhys-Williams and Barnes offered to lead a deputation to the Home Secretary. Espley wrote to Chuter Ede, formally requesting a meeting.⁴⁷⁷

At this point the NBTF's strategy of using the popular press to generate publicity for its campaigns backfired. On the day that Chuter Ede received Espley's letter, its text was printed in the *Daily Herald*, with an editorial urging him to accept the NBTF's demands.⁴⁷⁸ This appears to have been published at the request of Rhys-Williams. In the course of arranging NBTF

⁴⁷² 'RCOG memorandum regarding the use of pethidine by midwives', 22 May 1948, TNA MH 55/1585.

⁴⁷³ Humphrey Arthure, honorary secretary, RCOG, to Roger Fenney, secretary, CMB, 2 Jun 1948, TNA MH 55/1585.

⁴⁷⁴ Taylor to Fenney, 19 Jun 1948, TNA MH 55/1585.

⁴⁷⁵ Fenney to James Chuter Ede, Home Secretary, 2 Jul 1948, TNA MH 55/1585.

⁴⁷⁶ NBTF Executive Committee meeting minutes, 1 Sept 1948, in NBTF general minutes book 1945-49, WTL SA/NBT/A.1/5/1.

⁴⁷⁷ AJ Espley, chairman, NBTF, to Chuter Ede, 14 Sept 1948, TNA MH 55/1585.

⁴⁷⁸ [Anon.], (1948g) Birthday Trust deputation. *Daily Herald* (15 Sept): 4.

publicity campaigns, she corresponded with the editors of several popular daily newspapers, including the *News of the World* and the *Herald*.⁴⁷⁹ Chuter Ede objected to the publication of what he had believed to be private correspondence, and refuse to acknowledge the Executive Committee's approaches until Taylor assured him that 'the Trust was a highly reputable body and that a deputation should be received and its views considered'.⁴⁸⁰

When the meeting eventually took place, on 10 November 1948, it achieved little more than a restatement of the status quo.⁴⁸¹ Chuter Ede did not attend, sending his principal private secretary in his place. Two representatives of the Home Office's dangerous drugs section accepted the principle of permitting midwives to use pethidine on their own responsibility, but stressed the wide range of practical questions that would need to be dealt with in drawing up new regulations. Where would domiciliary midwives obtain the drug, and how would their use of it be monitored? How would the Home Office square a relaxation of the laws on pethidine with its wider responsibilities under international treaties on the control of dangerous drugs? Barnes summarised her memorandum on pethidine, emphasising its safety. Other, older drugs such as laudanum were available to midwives, despite continuing concerns over their safety and suitability.

For her part, Rhys-Williams threatened, albeit obliquely, more adverse publicity for the government. She claimed that the recent birth of Prince Charles, covered exhaustively in the popular press, would provoke an 'outry' if pethidine were not made available.⁴⁸² She added that the press were aware of the meeting and that she would be asked to make a statement about it. This came a fortnight later, in the form of a leading article in the *News of the World*. Pethidine, she explained, was 'a sleep-inducing and pain relieving drug, similar to but much safer than morphia', which 'the leading medical authorities unanimously approve in the early stages of childbirth and consider it can safely be used by a midwife on her own

⁴⁷⁹ Examples of their letters are held in Rhys-Williams' private correspondence. See WTL SA/NBT U.11/2.

⁴⁸⁰ Taylor to Chuter Ede, 29 Sept 1948, TNA MH 55/1585.

⁴⁸¹ The meeting is described in NBTF Executive Committee meeting minutes, 20 Oct 1948, in NBTF general minutes book 1945-49, WTL SA NBT/A.1/5/1.

⁴⁸² 'Note of meeting on 10 Nov 1948, with representatives of the NBTF about the use of pethidine by midwives', 11 Nov 1948, TNA MH 55/1585.

responsibility'.⁴⁸³ Only one man – Cluter Ede – stood between the mothers of Britain and safe, effective pain relief. The NBTF had asked him to reconsider the status of pethidine: success or failure was now in his hands.

Before this article reached the presses, the Home Office's legal advisor had, in fact, produced a first draft of the necessary regulations.⁴⁸⁴ The major sticking point in this document was the quantity of pethidine available to domiciliary midwives. Each birth would, under Barnes and Chassar Moir's recommendations, require a maximum of 300mg. But should domiciliary midwives be limited to holding, say, 1000mg of the drug at any one time? This would reduce the risk of addiction, but raised the possibility of women being unable to receive the drug if their midwife had exhausted her supply. Or should they be permitted to hold an unlimited amount? This would alleviate the supply problem, but would make domiciliary midwives a target for thieves and addicts. Could an expectant mother obtain her 300mg on prescription from her GP, which she could then pass to her midwife? Or should the whole issue of supply be dealt with by LSAs and MOsH, in their role as supervisors of domiciliary midwives?

Discussions over the details of pethidine regulation continued into the spring of 1949. Frustrated by what it saw as slow progress on this subject, the NBTF had begun to seek other means by which it could maintain its public presence. The Executive Committee's involvement in the Analgesia in Childbirth Bill led MoH advisors to seek a quick conclusion to the pethidine question, in order that it might be settled before Bevan consulted them over the Bill.⁴⁸⁵ This did not happen, and the question of pethidine supply was not finally resolved until April 1949. A meeting of Home Office and MoH officials agreed that domiciliary midwives would be able to obtain pethidine directly from pharmacists, with the quantity determined by the number of forthcoming deliveries entered in their 'midwives' book'.⁴⁸⁶ The pharmacist would countersign each entry to ensure that 300mg only was provided for each birth. More draft regulations

⁴⁸³ Rhys-Williams (1948), p2.

⁴⁸⁴ Legal advisor, Home Office, to Rowland, 19 Nov 1948, TNA MH 55/1585.

⁴⁸⁵ See, for example, Rowland to T Hutson, Home Office, 7 Feb 1949, TNA MH 55/1585.

⁴⁸⁶ 'Dangerous drugs regulations. Minutes of meeting', 5 Apr 1949, TNA MH 55/1585. The 'midwife's book' was an official document issued by the CMB, in which midwives were required to record the details of each birth they attended.

incorporating this proviso were prepared, and over the summer of 1949 were submitted for comment to the RCOG, the MoH and the CMB. This further delay excited no comment from the Executive Committee: their publicity campaign for the Bill appears to have left no time for further advocacy of pethidine.

A Home Office circular issued on 1 April 1950 brought into force the amended dangerous drug regulations and the new status of pethidine.⁴⁸⁷ Rather curiously, the Executive Committee appears not to have marked this event, described by Walker as 'a triumph for Lady Rhys-Williams and for the Birthday Trust', in its minutes or correspondence.⁴⁸⁸ The subject did, however, merit a short notice in *The Times*.⁴⁸⁹ The *Lancet*, meanwhile, characterised the new regulations as safe to the point of being 'drastic'.⁴⁹⁰ Drastic they may have been, but the first decade of the new pethidine regulations were marked by sustained criticism, both of the regulations and of the drug itself. This criticism inverted earlier concerns over pethidine's questionable efficacy as an analgesic. Instead, it portrayed the drug as potent and highly addictive.

Through the summer of 1950, the CMB received many letters from local MOsH, complaining that the new regulations left several aspects of pethidine use open to doubt and exploitation.⁴⁹¹ And in November an article in the *Daily Express* accused domiciliary midwives of 'hoarding' excess supplies of the drug.⁴⁹² Several such cases found their way into *The Times*.⁴⁹³ A further amendment to the dangerous drugs regulations, limiting the total quantity of pethidine to be held by a single domiciliary midwife at any one time to 2400mg, was scheduled for introduction in the spring of 1953.⁴⁹⁴ In a singular reversal of its position, the *Daily Express*

⁴⁸⁷ 'Amendment to dangerous drugs regulations. Statutory instrument 1950 no. 380', TNA MH 55/1585.

⁴⁸⁸ Walker to Charles, 9 Jun 1950, TNA MH 55/1585.

⁴⁸⁹ [Anon.], (1950b) Use of pethidine by midwives. *The Times* **51656** (3 Apr): 4.

⁴⁹⁰ [Anon.], (1950a) Use of pethidine by midwives. *Lancet* **I**: 723.

⁴⁹¹ Examples of these letters are held in TNA MH 55/1585.

⁴⁹² [Anon.], (1950c) Nurses 'hoarding' drugs. *Daily Express* (3 Nov): 14.

⁴⁹³ See, for example, [Anon.], (1954c) Nurse described as 'drug addict'. Alleged theft of pethidine. *The Times* **53027** (3 Sept): 2.

⁴⁹⁴ 'Consolidated dangerous drugs regulations. Statutory instrument 499', 31 Mar 1953, TNA MH 55/1585.

now accused the Home Office of trying to limit the amount of pain relief available to British mothers.⁴⁹⁵

Concern over pethidine was not limited to the popular press. A paper in the *Lancet* highlighted the drug's tendency to depress breathing, both in mothers and babies.⁴⁹⁶ The CMB expressed concern over the small but increasing numbers of midwives being disciplined for pethidine addiction or theft.⁴⁹⁷ Another problem was assessing the use and efficacy of pethidine in the hands of domiciliary midwives. Since they obtained the drug from a large number of private pharmacists, rather than the relatively small number of local MOsH, trustworthy data on the quantities of pethidine in domiciliary use were difficult to obtain. No mechanism existed for obtaining this information from either domiciliary midwives or pharmacists, and none, it appears, was ever proposed by the CMB, MoH or Home Office. Some attempt to address the problems of addiction and theft was made in February 1955, when Home Office regulations requiring the police to notify the General Nursing Council (GNC) of all convictions involving registered nurses were extended to include midwives.⁴⁹⁸ Despite this, the CMB continued to receive reports from county MOsH, complaining of 'irregularities' in pethidine distribution and use.⁴⁹⁹

A serious challenge to the new dangerous drugs regulations, and to the status of hospital midwives as independent practitioners, came in 1958 with the publication of the Aitken report on the control and distribution of dangerous drugs in hospitals.⁵⁰⁰ This document pointed out that the administration of any drugs by nurses to hospital patients without the direct authority of a doctor was technically illegal.⁵⁰¹ Though the new dangerous drugs regulations had given domiciliary midwives particular powers in the administration of pethidine, these powers did not extend to hospital practice:

⁴⁹⁵ Pincher C. (1952) Easy birth drug harder to get. *Daily Express* (25 Jan): 6.

⁴⁹⁶ Paterson SJ, Prescott F. (1954) Nalorphine in the prevention of neonatal asphyxia due to maternal sedation with pethidine. *Lancet* **I**: 490-493.

⁴⁹⁷ CMB minutes, 1 Mar 1951, TNA DV 1/17.

⁴⁹⁸ 'MoH memorandum', Feb 1955, TNA DV 6/6.

⁴⁹⁹ See, for example, C Metcalfe Browne, MOH, Manchester, to Fenney, 23 Sept 1957, TNA DV 11/417.

⁵⁰⁰ CHSC. (1958) *Report of the joint sub-committee on control of dangerous drugs and poisons in hospitals (Aitken report)*. London: HMSO.

⁵⁰¹ *Ibid.*, para 43.

[A hospital midwife] has no more rights in relation to dangerous drugs than an ordinary nurse. She can neither possess nor administer dangerous drugs without authority. The impression that any practising midwife has the right to the key of the ward drugs cupboard is erroneous.⁵⁰²

Though the MoH accepted the Aitken report's conclusions, it does not appear to have insisted on any immediate alterations to the CMB's policy on pethidine. Indeed, concerns over the drug's efficacy and addictive powers, as expressed in MoH, CMB and Home Office minutes and correspondence and the medical press, appear to have settled by the early 1960s. Throughout the 1960s and 1970s the CMB continued to approve pethidine for use by all unsupervised midwives. The MoH's 1967 drugs and therapeutics bulletin on analgesia in normal labour cited pethidine as a drug widely used to provide safe, strong analgesia.⁵⁰³

The case of pethidine suggests that the question of who benefits from the provision of pain relief in childbirth may not be as naïve as it appears. Gaining CMB approval for pethidine had two advantages for the organisations involved in campaigning for it. First, it reinforced the NBTF's public position as the leader of developments in the maternity services. Second, the CMB and MoH believed that any well-publicised addition to the midwives' armamentarium would help to improve their status as independent practitioners, capable as physicians of providing all the benefits of modern birth in hospitals or mothers' homes. This would, in turn, aid the recruitment and employment of midwives. But little interest was taken in pethidine as an obstetric analgesic, until events in the NBTF campaign made such interest necessary to maintain its public standing. From this point onwards, in its public and private campaigns, the NBTF Executive Committee consistently presented pethidine as a new, safe and highly effective analgesic.

In the case of pethidine, as in the case of Trilene, concern for the relief of individual mothers' suffering was expressed at length. It was, however, frequently articulated in parallel

⁵⁰² Ibid., para 85.

⁵⁰³ 'Drugs and therapeutics bulletin (draft)', Aug 1967, TNA DV 11/220.

with interest in the effect of these new analgesics on the status of midwives and midwifery. It is not an exaggeration to say that, in its first decade of use as an obstetric analgesic in England and Wales, pethidine was seen to be more for the benefit of midwives than mothers. This perception began to shift almost immediately after the approval of pethidine for use by unsupervised midwives. In the mid to late 1950s, official and medical views of the drug were inverted. Concerns over its ineffectiveness as an analgesic were replaced by concerns over its habit-forming potency, and hence its availability to unsupervised midwives, as reflected in the Aitken report. These concerns appear to have dissipated by the early 1960s, and later sources suggest that pethidine quickly became an accepted part of midwifery practice, both in home and hospital deliveries.

4.3. Nitrous oxide and oxygen.

‘We have at last got a perfect analgesia machine’, Elam wrote to Rhys-Williams in October 1958.⁵⁰⁴ In an uncharacteristically concise letter, he described his recent work with an automatic apparatus, developed with BOC, which could deliver various percentages of nitrous oxide to oxygen. Though the size and weight of its separate gas cylinders made the apparatus impractical for domiciliary midwifery, Elam believed it was ideal for hospital obstetrics.⁵⁰⁵ As he knew well, nitrous oxide / air mixtures, generally administered via the Minnitt machine and its variants, had been used by unsupervised midwives to provide analgesia in childbirth since the 1930s. From the mid-1950s, however, the safety of this form of analgesia was challenged. A series of publications by anaesthetists working in the NDA pointed out that the Minnitt machine was not only technically unreliable, but also delivered a nitrous oxide / air mixture that was dangerously low in oxygen.⁵⁰⁶ Following these reports, BOC began to wind down production of

⁵⁰⁴ Elam to Rhys-Williams, 29 Oct 1958, WTL SA/NBT/H.2/8/1.

⁵⁰⁵ Ibid.

⁵⁰⁶ See, for example, Seward & Bryce-Smith (1957); Cole PV, Nainby-Luxmoore RC. (1962) The hazards of gas and air in obstetrics. *Anaesthesia* 17: 505-518.

the Minnitt machine. It continued to service machines still in use, but expressed serious concerns to the CMB over their increasing age and untrustworthiness.⁵⁰⁷

Following these concerns over the safety of nitrous oxide / air analgesia, and on the basis of further research into nitrous oxide / oxygen analgesia, the CMB, MoH and NBTF Executive Committee began in the late 1950s to view the latter technique as the ideal form of analgesia for use by unsupervised midwives. They supported an MRC investigation into the suitability of nitrous oxide / oxygen mixtures for use by midwives. In 1965, as a result of this investigation, the CMB approved a pre-mixed nitrous oxide / oxygen system – ‘Entonox’ – developed by Dr Michael Tunstall, an anaesthetist working in Aberdeen. By the early 1970s, Entonox was widely used for obstetric analgesia in England and Wales, both in the 90% of births that took place in NHS hospitals and in the 5% or so of births that took place in the mother’s home.

The development of nitrous oxide / oxygen analgesia emerged from the CMB and NBTF’s efforts to make new techniques of obstetric analgesia available to unsupervised midwives. But the high proportion of hospital births in England and Wales by the late 1960s meant that Entonox did not become as rigidly associated with domiciliary midwifery as earlier CMB-approved types of analgesia, most notably the Minnitt machine. Anaesthetists were increasingly prominent in testing and developing nitrous oxide / oxygen analgesia, and many of these anaesthetists were subsequently involved in the foundation of the OAA in 1969. This suggests that the MRC investigation of nitrous oxide / oxygen analgesia in midwifery became a focal point for anaesthetists seeking to develop both their interest in obstetric anaesthesia and their professional identity as obstetric anaesthetists. This section links and develops these accounts, by focusing on the work of the MRC committee appointed to investigate nitrous oxide / oxygen analgesia. It uses material from the NBTF, CMB, MoH and MRC archives to trace the emergence of nitrous oxide / oxygen as a widely accepted form of obstetric analgesia.

Williams argues that, like the late 1940s, the 1950s and 1960s were a further period of reorientation and rethinking for the NBTF.⁵⁰⁸ Its Executive Committee found little success in their attempts to re-establish close relationships with the Conservative party in this period.

⁵⁰⁷ On BOC’s concerns over the safety of the Minnitt machine, see the correspondence between BOC and the CMB held in TNA DV 11/5.

Indeed, Rhys-Williams' new campaign for financial reform appears to have actively antagonised the Macmillan administration.⁵⁰⁹ From 1953 the NBTF's major project was its perinatal mortality survey (PMS), a study of all births taking place in Britain in a single week.⁵¹⁰ The high cost of the PMS, and the time-consuming process of planning it, is reflected in the NBTF's approach to obstetric analgesia in this period. Between the end of the CAM's investigation of Trilene in 1954, and Elam's report of his new apparatus late in 1958, the Executive Committee supported no large-scale investigations or campaigns on pain relief in childbirth.

Instead, it pursued its interests piecemeal, supporting smaller, individually focused projects, and looking to other organisations, such as the MRC, the Wellcome Foundation or pharmaceutical manufacturers, to contribute to funding. Roberts, the NBTF research fellow in obstetric analgesia, was given a further year's funding to write up her research.⁵¹¹ Elliott Philipp, a consultant obstetrician at Romford Hospital who joined the Executive Committee in the early 1950s, was invited to prepare reports on spinal anaesthesia and the 'Lamaze method' of natural childbirth.⁵¹² And between 1958 and 1965 the Executive Committee acted as an intermediary between Elam, BOC, the MRC and the CMB, organising clinical trials of Elam's nitrous oxide-oxygen inhaler and pressing for its approval by the CMB.

But Elam's retirement in the spring of 1960, and Rhys-Williams' death in October 1964, appear to have crystallised a general perception within the Executive Committee that deeper

⁵⁰⁸ See Williams (1997), pp18-22.

⁵⁰⁹ See *ibid.*, pp202-203.

⁵¹⁰ The PMS took five years to plan, and a further five years to publish the first report of its findings. The survey was carried out in the week of 3-9 March 1958. The first report of its findings was published in October 1963. See Butler NR, Bonham G. (1963) *Perinatal mortality. The first report of the 1958 British Perinatal Mortality Survey; under the auspices of the National Birthday Trust Fund*. Edinburgh & London: E & S Livingstone. On NBTF involvement with the PMS, see Williams (1997), chap 10.

⁵¹¹ NBTF annual general meeting minutes, 7 May 1957, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6.

⁵¹² On Philipp's investigation of spinal anaesthesia, see NBTF Executive Committee meeting minutes, 17 Sept 1957, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6. He published a report of his research in 1959. See Watt JD, Philipp EE, Pateman MT. (1959) Low spinal anaesthesia in obstetrics. *Journal of Obstetrics and Gynaecology of the British Empire* 66: 424-433. On his visit to Paris to investigate the 'Lamaze method', see NBTF Executive Committee meeting minutes, 7 Jul 1959, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6.

changes in the NBTF's general policy were necessary.⁵¹³ This latter event in particular seems to have initiated a year-long period of self-examination, culminating in two extraordinary meetings of the Executive Committee in the summer and autumn of 1965.⁵¹⁴ Following these meetings, the Executive Committee decided to focus their attention, and their remaining funds, on continuing the work of the PMS, and to wind down their funding for clinical research. The NBTF campaign for new methods of obstetric analgesia had begun in the early 1930s, when Elam had brought the Minnitt machine to their attention. In this sense it ended where it had begun: with Elam's research on nitrous oxide analgesia.

4.3.1. The Lucy Baldwin machine.

The origins of Elam's work on nitrous oxide + oxygen analgesia are far from clear.⁵¹⁵ In a lecture to the maternity and child welfare committee of Hertfordshire County Council in 1945, he was equivocal over the benefits of this method in childbirth. Nitrous oxide + oxygen provided safe, effective analgesia, but it was expensive and, in his view, required the attention of a specially trained anaesthetist.⁵¹⁶ By the early 1960s Elam was claiming that he had been inspired to work on nitrous oxide + oxygen analgesia by Dorothy Spengler, a senior midwife in the maternity unit of Barnet General Hospital.⁵¹⁷ But in his initial correspondence with Rhys-Williams, he presented the idea of nitrous oxide + oxygen analgesia in childbirth as an idea with a long history. A 'Swedish anaesthetist' had, he claimed, 'produced a machine years ago'.⁵¹⁸

⁵¹³ Rhys-Williams' death was reported to the Executive Committee on 6 October 1964. See NBTF Executive Committee meeting minutes, 6 Oct 1964, in NBTF general minutes book Mar 1962 – Oct 1965, WTL SA NBT A.1 6.

⁵¹⁴ NBTF Executive Committee meeting minutes, 27 Jul 1965 and 18 Oct 1965, in NBTF general minutes book Mar 1962 – Oct 1965, WTL SA NBT A.1 6.

⁵¹⁵ I have been unable to locate any archival material relating to Elam's work on nitrous oxide + oxygen before his letter to Rhys-Williams in October 1958.

⁵¹⁶ 'Copy of talk given by Dr John Elam in Jan 1945 to the maternity and child welfare committee of Hertfordshire County Council', 1945, MH 134 144.

⁵¹⁷ Elam, quoted in Spengler DB. (1961) The Lucy Baldwin nitrous oxide and oxygen machine. *Nursing Times* (22 Sept): 1237.

⁵¹⁸ Elam to Rhys-Williams, 14 Nov 1958, WTL SA/NBT/H.2/8/1. This 'Swedish anaesthetist' may have been the Danish Dr Andreas Warming, who designed a nitrous oxide + oxygen machine which he named the 'Calmator'. In 1949 Dr EH Seward, an anaesthetics registrar working in the NDA, published a study of 110 births conducted with the 'Calmator' in the obstetrics department at the Radcliffe Infirmary. See

This enabled him to cite what he saw as the lack of British interest in this method as yet another example of ‘the deplorable indifference shown to analgesia today’.⁵¹⁹ He wanted to get more machines made, and to get the support of the CMB, so that he could carry out a larger trial.⁵²⁰ He also hoped to complete this project before his impending retirement.⁵²¹

Rhys-Williams immediately offered NBTF support, and described Elam’s new apparatus to the Executive Committee in November.⁵²² Though no spare funds were available for an investigation, they agreed unanimously to support Elam’s work in every other way. At the Executive Committee’s request, BOC agreed to make three or four new sets of apparatus for a small, informal clinical trial.⁵²³ Riddick asked two obstetricians on the Executive Committee Barnes and Philipp – if they would be prepared to test Elam’s apparatus in their maternity wards (at Kingsbury Maternity Hospital, London, and Romford respectively).⁵²⁴ Both agreed, on condition that the new machine could be used under supervision by pupil midwives as part of their training.⁵²⁵

Meanwhile, Elam wrote to Walker at the CMB, rehearsing the benefits of his new apparatus, and calling for a larger, formal clinical trial.⁵²⁶ Walker agreed to give official CMB support for Barnes’ and Philipp’s informal trial. By early March 1959 BOC had sent new sets of the apparatus to Kingsbury and Romford.⁵²⁷ In early June, Elam wrote to Riddick, suggesting that the NBTF publish a jointly-authored report on the results of this trial. Riddick passed this idea to Philipp and Barnes.⁵²⁸ Philipp was enthusiastic: ‘I think the whole thing is an excellent idea

Seward EH. (1949) Obstetric analgesia: a new machine for the self-administration of Nitrous Oxide Oxygen. *Proceedings of the Royal Society of Medicine* **42**: 745-746.

⁵¹⁹ Elam to Rhys-Williams, 14 Nov 1958, WTL SA/NBT/H.2/8/1.

⁵²⁰ Elam to Rhys-Williams, 14 Nov 1958, WTL SA/NBT/H.2/8/1.

⁵²¹ Elam to Rhys-Williams, 29 Oct & 14 Nov 1958, WTL SA/NBT/H.2/8/1.

⁵²² NBTF Executive Committee meeting minutes, 24 Nov 1958, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6.

⁵²³ Riddick discussed her telephone conversations with BOC in a letter to Elam. See Riddick to Elam, 25 Nov 1958, WTL SA/NBT/H.2/8/1.

⁵²⁴ Riddick to Elam, 30 Dec 1958; Riddick to Barnes, 31 Dec 1958; Barnes to Riddick, 5 Jan 1959, WTL SA/NBT/H.2/8/1.

⁵²⁵ Barnes to Riddick, 5 Jan 1959; Philipp to Walker and Riddick, 5 Mar 1959, WTL SA/NBT/H.2/8/1.

⁵²⁶ Elam to Walker, 29 Nov 1958, WTL SA/NBT/H.2/8/3.

⁵²⁷ NBTF Executive Committee meeting minutes, 16 Feb 1959, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6.

⁵²⁸ Riddick mentioned Elam’s idea in her letter to Philipp and Barnes. See Riddick to Philipp and Barnes, 23 Jun 1959, WTL SA/NBT/H.2/8/1.

and I look forward to contributing to an article written by Elam, Barnes and Philipp'.⁵²⁹ But Barnes seems to have taken this suggestion as a slur on the quality of her own investigation. In a terse reply, she made the slightly surprising claim that she was unaware of Philipp's work.⁵³⁰ The Executive Committee dropped the idea of a joint report, but Barnes and Philipp continued their trials. By July 1959, Fenney at the CMB was reporting much interest in nitrous oxide / oxygen analgesia.⁵³¹ Emboldened by this, Elam continued to press for the expansion and formalisation of the investigation, suggesting a series of 'say 10,000 cases'.⁵³²

Elam also raised the question of a name for the new apparatus. BOC had argued that his original suggestion, the 'Rhys-Williams Machine', was too long, and might be confused with another of their products, the 'Williams Pneumoflator'.⁵³³ Would 'Juliet' or 'Rhys' be acceptable? Rhys-Williams declined Elam's offer, suggesting instead that the new apparatus should be named after its inventor.⁵³⁴ This time, Elam refused. He and Rhys-Williams finally agreed on 'Birthday Trust Machine'.⁵³⁵ But now BOC objected. 'Birthday Trust Machine' was too long. It gave the impression that the machine was 'specially sponsored' by the NBTF. And its acronym had at the time an unfortunate double meaning: 'BTM' was a popular euphemism for 'bottom'.⁵³⁶ After a discussion with the Executive Committee, Rhys-Williams suggested 'Baldwin Machine', commemorating Lady Lucy Baldwin's involvement in the early work of the NBTF.⁵³⁷ Elam and BOC both agreed. More importantly, Earl Baldwin, son of Lady Baldwin, 'agreed gladly' to the idea.⁵³⁸ He suggested that 'Lucy Baldwin machine' might be more appropriate, and from October 1959 BOC applied this name to the new apparatus.

By this point both Barnes and Philipp had finished their reports on the Lucy Baldwin

⁵²⁹ Philipp to Riddick, 24 Jun 1959, WTL SA/NBT/H.2/8/1.

⁵³⁰ Barnes to Riddick, 24 Jun 1959, WTL SA/NBT/H.2/8/1.

⁵³¹ Note of a telephone conversation between Riddick and Fenney, Jul 1959, WTL SA/NBT/H.2/8/1.

⁵³² Elam to Riddick, 31 Jul 1959, WTL SA/NBT/H.2/8/1.

⁵³³ FWB Kittel, BOC, to Elam, 4 Aug 1959, WTL SA/NBT/H.2/8/2.

⁵³⁴ Rhys-Williams, quoted in Riddick to Elam, 18 Aug 1959, WTL SA/NBT/H.2/8/1.

⁵³⁵ Elam to Riddick, 6 Aug 1959; Riddick to Kittel, 18 Aug 1959, WTL SA/NBT/H.2/8/1.

⁵³⁶ Kittel to Riddick, 20 Aug 1959, WTL SA/NBT/H.2/8/1. For a near-contemporary usage of 'BTM', see Thomas D. (1954) *Under Milk Wood. A play for voices*, London: JM Dent & Sons Ltd, p12: 'Learn him with a slipper on his b.t.m.'.

⁵³⁷ Rhys-Williams, quoted in Riddick to Elam, 27 Aug 1959, WTL SA/NBT/H.2/8/1.

⁵³⁸ Earl Baldwin of Bewdley, Showborough House, Gloucestershire, to Riddick, 14 Oct 1959, WTL SA/NBT/H.2/8/2.

machine. The Executive Committee agreed that the next step was to lobby for an official investigation, and suggested that Barnes and Philipp delay publication of their reports until the MRC and CMB had considered the matter.⁵³⁹ On 9 October 1959, Riddick wrote formally to Himsworth at the MRC, enclosing copies of Barnes' and Philipp's reports.⁵⁴⁰ In her letter, she recalled the NBTF's generosity in funding the CAM's work on Trilene. Would the CAM now take over the investigation of the Lucy Baldwin machine? At a meeting in November 1959, MRC and MoH officials agreed that Barnes' and Philipp's reports on the Lucy Baldwin machine were promising, and that the apparent safety and effectiveness of the new apparatus merited 'a thorough trial'.⁵⁴¹

One immediate problem was the 'demise' of the CAM after the death of Gilliatt, its chairman, in a car crash in September 1956.⁵⁴² But this could easily be overcome, if expert clinical opinion favoured a new investigation. Dr Margaret Gorrill, an MRC medical officer, sent copies of the NBTF submission to Organe; to Sir Arthur Gemmell, professor of obstetrics and midwifery at the University of Liverpool; and to Sir Dugald Baird, professor of obstetrics and midwifery at the University of Aberdeen and director of the OMRU.⁵⁴³ In their replies, Organe and Gemmell questioned the applicability of the Lucy Baldwin to midwifery. Organe did so on the grounds of safety – 'there is always a danger of the oxygen running out' – and Gemmell on the grounds that the Lucy Baldwin machine was too large and heavy for domiciliary practice.⁵⁴⁴ But all three agreed that it merited a longer trial, and that Elam's suggestion of 10,000 cases was unnecessarily large. A smaller study, conducted between four or five centres, would suffice. At the end of November 1959 Gorrill agreed to arrange a

⁵³⁹ Rhys-Williams to Elam, 14 Oct 1959, WTL SA/NBT/H.2/8/1.

⁵⁴⁰ Riddick to Himsworth, 9 Oct 1959, TNA FD 23/1909.

⁵⁴¹ Taylor to Dr Margaret Gorrill, MRC, 20 Nov 1959, TNA FD 23/1909.

⁵⁴² Gorrill to Dr Albertine Winner, MoH, 3 Nov 1959, TNA FD 23/1909.

⁵⁴³ Gorrill to Organe, Sir Arthur Gemmell, University of Liverpool, Sir Dugald Baird, University of Aberdeen, 5 Nov 1959, TNA FD 23/1909. The OMRU was founded in 1954, after an application to the MRC by Baird and his junior colleagues at Aberdeen. Baird was director until his retirement in 1965. Following internal disagreement over the future of the OMRU, it was split into two new MRC research units: the reproduction and growth research unit at the University of Newcastle, and the medical sociology unit at Aberdeen. Papers relating to the OMRU are held in TNA FD 1/8839, 1/8840, 1/8841, 12/358, 12/359, 12/360. On the work of the OMRU, see Landsborough Thomson (1987), vol 2, pp93-95. On Baird, see Macnaughton M, 'Baird, Sir Dugald (1899-1986)', *ODNB*.

⁵⁴⁴ Respectively, Organe, quoted in Taylor to George Godber, deputy CMO, MoH, 12 Nov 1959, TNA MH 134/146; Gemmell to Gorrill, 13 Nov 1959, TNA FD 23/1909.

preliminary meeting, based on the former membership of the CAM, to discuss the possibilities for a trial.⁵⁴⁵

Elam, meanwhile, continued to plan his retirement. He persuaded Dr JD Rochford, a junior colleague, to take over his work at Barnet General Hospital, and asked Riddick and Rhys-Williams to include Rochford in future correspondence and meetings.⁵⁴⁶ Elam intended to move to Penrith in Cumbria, and also asked Riddick if BOC could send a Lucy Baldwin machine to nearby Carlisle Hospital, so that he could continue his research part-time.

By early January 1960, Gorrill had agreed the membership for the MRC's preliminary meeting.⁵⁴⁷ She would represent the MRC. Barnes and Baird would bring an obstetric perspective. Organe, Mushin and Dr Norman Rollason, a consultant anaesthetist working under Baird in the OMRU, would provide expertise in anaesthesia. Winner would represent the MoH, and Gemmell would take the chair. Gemmell initially wanted to invite Elam and Minnitt.⁵⁴⁸ Minnitt, however, was too frail to make the journey from Liverpool, and Elam was occupied with arrangements for his retirement. Elam asked Rochford to go in his place, but Rochford broke his leg a few days before the meeting, and was unable to attend. Gemmell, too, fell ill a month before the meeting, and Gorrill asked Baird to stand in as chairman.

In his preliminary remarks to the meeting, held at the MRC headquarters on 25 March 1960, Baird argued that a clinical trial of the Lucy Baldwin machine would have three advantages.⁵⁴⁹ It would provide a direct comparison of nitrous oxide / oxygen, Trilene inhalers and the Minnitt machine. It would show whether the Lucy Baldwin machine was safe for use by unsupervised midwives. And it would determine the optimum percentages of nitrous oxide and oxygen. Mushin and Organe felt that too little was known about the analgesic properties of nitrous oxide / oxygen mixtures for such a trial to begin immediately. Mushin offered to prepare a review of existing clinical literature on this form of analgesia. Organe proposed that Professor Ronald Woolmer, director of the research department of anaesthetics at the RCS, be asked to examine a

⁵⁴⁵ Gorrill to Herrald, 30 Nov 1959, TNA FD 23/1909.

⁵⁴⁶ Elam to Rhys-Williams, 9 Oct 1959; Riddick to Dr JD Rochford, Barnet General Hospital, 14 Oct 1959, WTL SA/NBT/H.2/8/1.

⁵⁴⁷ Gorrill to Herrald, 4 Jan 1960, TNA FD 23/1909.

⁵⁴⁸ Gemmell to Gorrill, 18 Dec 1959, TNA FD 23/1909.

prototype of the Lucy Baldwin machine, and to report on its safety and technical aspects.⁵⁵⁰

Once these steps had been completed, a further meeting could plan a clinical trial, along the lines of the CAM investigation of Trilene. After the meeting, Gorrill approached BOC via the NBTF, asking if they would be prepared to manufacture more prototypes for a trial.⁵⁵¹ Gemmell's illness worsened, and in May 1960 he asked Gorrill if Baird could take over the chairmanship permanently.⁵⁵² Baird agreed.

By the spring of 1960, Elam was growing impatient with the apparent lack of movement towards a formal clinical trial. In letters to Riddick and Rhys-Williams, written throughout the autumn of 1959, he had continued to criticise the 'wickedness and immorality' of 'our terrible hospitals'.⁵⁵³ And at the end of a long letter to Derek Walker-Smith, then Conservative Minister of Health, in August 1959, in which he accused 'dishonest politicians' of destroying British medicine, Elam threatened more press attention.⁵⁵⁴ He carried out his threat in May 1960, in articles in the *Empire News* and the *Woman's Mirror*.⁵⁵⁵ He insisted that the new Lucy Baldwin machine was far more effective than the older Minnitt machine, and claimed once again that the new apparatus provided perfect obstetric analgesia. Though neither article criticised the MoH, MRC or CMB directly, Elam deprecated the needless suffering he claimed to see in British maternity wards, and urged public agitation as the only way to attract official attention to this subject. In both articles he also claimed, erroneously, that the NBTF had financed all previous research on the Lucy Baldwin machine.

Not for the first time, the NBTF distanced itself from Elam's comments. In a telephone conversation Riddick assured Gorrill that the NBTF shared Elam's views, but not his way of

⁵⁴⁹ Baird, quoted in 'Informal meeting to discuss new nitrous oxide / oxygen analgesia machine', 25 Mar 1960, TNA FD 23/1909.

⁵⁵⁰ On Woolmer, see 'RWC'. (1963) Obituary. Professor Ronald Woolmer. *Anaesthesia* 18: 248-250. During his work on the Lucy Baldwin machine trials, Woolmer published a short history of anaesthesia, in which he made only passing references to obstetric anaesthesia and analgesia. See Woolmer (1961).

⁵⁵¹ Gorrill to Riddick, 4 Apr 1960, TNA FD 23/1909.

⁵⁵² Gemmell to Gorrill, 24 May 1960; Baird to Gorrill, 20 Jun 1960, TNA FD 23/1909.

⁵⁵³ Elam to Rhys-Williams, 9 Oct 1959; Elam to Riddick, 29 Oct 1959, WTL SA/NBT/H.2/8/1.

⁵⁵⁴ Elam to Derek Walker-Smith, Minister of Health, 17 Aug 1959, WTL SA/NBT/H.2/8/1.

⁵⁵⁵ Crowley JH. (1960) Machine banishes childbirth pain. *Empire News* (22 May): 17; [Anon.]. (1960a) Dr John was shocked and now... Hospitals test a new pain-killing machine. *Woman's Mirror* (27 May): 5.

expressing them. The NBTF were, she said, 'very discreet in dealing with the Press'.⁵⁵⁶ A few weeks after Elam published these articles Dr Edith Summerskill, a Labour MP, made the MRC's preliminary work on the Lucy Baldwin machine the subject of a parliamentary question to the Minister of Health.⁵⁵⁷ In his answer, Walker-Smith described Barnes' and Philipp's preliminary work on the Lucy Baldwin machine, but warned the Commons that the results of any official investigations would not be available for some time.⁵⁵⁸

Over the summer of 1960 three hospital maternity units approached the NBTF, volunteering to take part in clinical trials of the Lucy Baldwin machine. The Executive Committee had been advising Sonia Willington, a housewife and mother who wanted to start an 'Association for the Improvement of Maternity Services' (AIMS).⁵⁵⁹ Willington and Colonel HD Fletcher, honorary secretary of AIMS, met members of the Executive Committee. In a subsequent letter, Riddick had suggested some ways in which they could contribute to developments in the maternity services. Though no copies of this letter have survived, later correspondence suggests that it made some reference to the Lucy Baldwin machine. Fletcher passed his copy of the letter to Dr Andrew Doughty, a young consultant anaesthetist at Kingston Hospital, Surrey. In July 1960 Doughty wrote to Riddick, offering to 'organise and supervise a trial' of the Lucy Baldwin machine.⁵⁶⁰

Elam, meanwhile, retired to Penrith.⁵⁶¹ At his request, Josephine Davidson, a consultant obstetrician at Carlisle Hospital, wrote to Riddick, asking that Carlisle be included in any MRC-sponsored trials.⁵⁶² And after 'a rather disjointed letter from Dr John Elam', Agnes Milne, a consultant obstetrician at Barnet General Hospital, offered her department's services in future

⁵⁵⁶ Gorrell, 'Memorandum', 1 Jul 1960, TNA FD 23/1909.

⁵⁵⁷ Summerskill was an early member of the Socialist Medical Association (SMA) and the MWF. See Stewart J, 'Summerskill, Edith Clara, Baroness Summerskill (1901–1980)', *ODNB*.

⁵⁵⁸ *Hansard* fifth series (625) 20 Jun 1960: col 4.

⁵⁵⁹ NBTF Executive Committee meeting minutes, 27 Jun 1960, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6. On the foundation of AIMS see Oakley (1984), pp239–241.

⁵⁶⁰ Andrew Doughty, consultant anaesthetist, Kingston Hospital, to Riddick, 7 Jul 1960, WTL SA/NBT/H.2/8/1.

⁵⁶¹ See Elam to Riddick, 6 Jul 1960, WTL SA/NBT/H.2/8/1. Elam reported to Riddick that midwives at Carlisle Hospital initially refused to co-operate in further trials of the Lucy Baldwin machine. By the end of July, however, the Carlisle obstetricians had 'come down heavily on our side', and Elam continued his research. See Elam to Riddick, 14 Jul 1960, WTL SA/NBT/H.2/8/1.

⁵⁶² See Dr Josephine Davidson, Carlisle Hospital, to Elam, 11 Aug 1960; Elam to Riddick, 2 Sept 1960, WTL SA/NBT/H.2/8/1.

trials.⁵⁶³ Riddick forwarded Milne, Davidson and Doughty's letters to Gorrill, who added their names to the list of possible trial centres.⁵⁶⁴

By October 1960, Mushin had prepared and submitted his clinical literature review on nitrous oxide / oxygen analgesia. Consultants at eight hospitals had volunteered to take part in future trials. And BOC had manufactured, though not yet distributed, six new Lucy Baldwin machines, bringing the total number of prototypes in existence to ten.⁵⁶⁵ But, like the CAM's investigation a decade earlier, the major obstacle to beginning clinical trials of the Lucy Baldwin machine was the process of technical testing and approval. At Woolmer's request, the three machines used in Barnes' and Philipp's early trials, and a new machine supplied to Doughty at Kingston, had been sent to his laboratory for comparative testing.⁵⁶⁶ Only one Lucy Baldwin machine remained in clinical service – Elam's machine in Carlisle.

In a conversation with Organe, Woolmer acknowledged the length and complexity of his testing process, and suggested that further delays could be avoided by getting BOC to test each new machine to his specification.⁵⁶⁷ But by the winter of 1960, BOC were expressing serious concerns to the NBTF over the financial impact of delays in testing the prototype Lucy Baldwin machine.⁵⁶⁸ Riddick also received letters from Davidson and Doughty, asking when their Lucy Baldwin machines might be returned.⁵⁶⁹ Gorrill tried to reassure the NBTF, offering to return the four machines as soon as Woolmer's tests had been completed.⁵⁷⁰ But Woolmer refused to give a date for the completion of his tests.⁵⁷¹

⁵⁶³ Agnes Milne, consultant obstetrician, Barnet General Hospital, to Riddick, 8 Sept 1960, WTL SA/NBT/H.2/8/1.

⁵⁶⁴ Riddick to Gorrill, 11 Jul 1960; Gorrill to Riddick, 13 Jul 1960; Riddick to Gorrill, 10 Aug 1960, TNA FD 23/1909.

⁵⁶⁵ Respectively, Prof William Mushin, University of Wales Medical School, 'A review of the literature on nitrous oxide and oxygen analgesia in midwifery', 6 Oct 1960; Gorrill, 'List of departments where the gas / oxygen machine can be used', Aug 1960; Riddick to Gorrill, 19 Sept 1960, TNA FD 23/1909.

⁵⁶⁶ Gorrill, 'Memorandum', 1 Jun 1960, TNA FD 23/1909.

⁵⁶⁷ Woolmer, quoted in Organe to Gorrill, 17 Aug 1960, TNA FD 23/1909.

⁵⁶⁸ LA Cox, BOC, to Riddick, 17 Nov 1960, TNA FD 23/1909.

⁵⁶⁹ Riddick outlined their concerns in Riddick to Gorrill, 31 Oct 1960; Riddick to Gorrill, 21 Nov 1960, TNA FD 23/1909.

⁵⁷⁰ Manuscript note of a telephone conversation between Gorrill and Riddick, 22 Nov 1960, on Riddick to Gorrill, 21 Nov 1960, TNA FD 23/1909.

⁵⁷¹ Prof Ronald Woolmer, RCS, to Gorrill, 5 Dec 1960, TNA FD 23/1909.

In early December 1960, BOC representatives told the Executive Committee that they would go ahead with full production of the Lucy Baldwin machine in the new year, whether or not the CMB had approved its use by unsupervised midwives.⁵⁷² Professor JC McClure Browne, a member of the Executive Committee and professor of obstetrics at the Hammersmith Hospital, offered to write to Baird, outlining BOC's position and asking his advice.⁵⁷³ Baird thought that BOC should wait for Woolmer's report on the technical aspects of the Lucy Baldwin machine, and Mushin's report on pain thresholds.⁵⁷⁴ If these were satisfactory, production could proceed.

In January 1961, Mushin reported to Gorrill that he had abandoned his work on pain thresholds. He had still not received a tested Lucy Baldwin machine from Woolmer, and without it, 'the evidence we were accumulating had little bearing on the problem of obstetric analgesia'.⁵⁷⁵ But, he felt, 'the very full reports' from Philipp and Barnes already provided enough evidence of the machine's safety, and he now believed a clinical trial could go ahead.⁵⁷⁶ In February, Woolmer finally reported that his 'bench tests' were complete, and that the Lucy Baldwin machine was safe and robust enough for clinical trials.⁵⁷⁷ From February 1961, BOC began to manufacture and market the Lucy Baldwin machine in commercial quantities.⁵⁷⁸ The NBTF, however, remained unsatisfied with the MRC's progress. Riddick wrote again to Gorrill, and Rhys-Williams offered to 'go and see the Professors' in person.⁵⁷⁹ Gorrill and Dr Joan Faulkner, another MRC medical officer, met in late February, to discuss the NBTF's actions and the possibilities for a clinical trial. Delays in starting the trial had, they agreed, been 'largely Professor Woolmer's fault', but merely acquiescing to NBTF demands for an immediate clinical trial might be counterproductive.⁵⁸⁰ Gorrill agreed to arrange another meeting as soon as

⁵⁷² NBTF Executive Committee meeting minutes, 5 Dec 1960, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6.

⁵⁷³ Prof JC McClure Browne, professor of obstetrics and gynaecology, Hammersmith Hospital, to Baird, 5 Dec 1960, TNA FD 23/1909.

⁵⁷⁴ Baird to McClure Browne, 13 Dec 1960, TNA FD 23/1909.

⁵⁷⁵ Mushin to Gorrill, 31 Jan 1961, TNA FD 23/1909.

⁵⁷⁶ Mushin to Gorrill, 8 Feb 1961, TNA FD 23/1909.

⁵⁷⁷ Woolmer to Gorrill, 24 Feb 1961, TNA FD 23/1909.

⁵⁷⁸ Riddick reported BOC's decision in Riddick to Elam, 1 Feb 1961, WTL SA/NBT/H.2/8/1.

⁵⁷⁹ Rhys-Williams, quoted in Riddick to Elam, 17 Feb 1961, WTL SA/NBT/H.2/8/1.

⁵⁸⁰ Gorrill, 'Memorandum', 22 Feb 1961, TNA FD 23/1909.

possible. Baird and Mushin were both out of the country for the spring of 1961, and the other members agreed that the earliest possible date for a meeting was the end of June.⁵⁸¹

Elam's frustration with this continuing delay persisted through the spring of 1961. He assumed that BOC's decision to start commercial production of the Lucy Baldwin machine indicated that the new apparatus had been approved by the CMB.⁵⁸² Riddick corrected him.⁵⁸³ Elam, apparently furious, proposed 'a little more Press publicity'.⁵⁸⁴ Riddick urged caution, suggesting he discuss the idea with BOC and the MRC before publishing anything.⁵⁸⁵ Elam appears to have dropped this idea, but a few days later he wrote to Riddick again.⁵⁸⁶ Spengler, the senior midwife at Barnet General Hospital, had written an article on Elam's early work with nitrous oxide / oxygen analgesia, and was planning to publish it in the *Midwives Chronicle*. 'If we wait for the MRC we shall all be 110 years old and no longer interested', he argued.⁵⁸⁷

Riddick replied immediately. Though she 'sympathise[d] very much' with Elam's feelings about the MRC, she felt that Spengler's article might 'upset any progress made with them', and might also antagonise Philipp and Barnes, who had delayed publication of their own research on the Lucy Baldwin machine.⁵⁸⁸ Elam disclaimed responsibility, tersely: 'I have no connection with [Barnet General Hospital] now, and cannot influence them'.⁵⁸⁹ Riddick approached Milne at Barnet, asking if a footnote could be added to the article, explaining the NBTF's role in its development.⁵⁹⁰ She also suggested to Barnes that, if Spengler's article were published, she and Philipp should feel free to publish their original reports on the Lucy Baldwin machine.⁵⁹¹

⁵⁸¹ See the correspondence between Gorrill and the committee members between Feb and May 1961, TNA FD 23/1909.

⁵⁸² Elam to Riddick, 31 Jan 1961, WTL SA/NBT/H.2/8/1.

⁵⁸³ Riddick to Elam, 1 Feb 1961, WTL SA/NBT/H.2/8/1.

⁵⁸⁴ Elam to Riddick, 11 Feb 1961, WTL SA/NBT/H.2/8/1.

⁵⁸⁵ Elam to Riddick, 9 May 1961; Riddick to Elam, 18 May 1961, WTL SA/NBT/H.2/8/1.

⁵⁸⁶ Elam to Riddick, 20 May 1961, WTL SA/NBT/H.2/8/1.

⁵⁸⁷ Ibid.

⁵⁸⁸ Riddick to Elam, 23 May 1961, WTL SA/NBT/H.2/8/1.

⁵⁸⁹ Elam to Riddick, 25 May 1961, WTL SA/NBT/H.2/8/1.

⁵⁹⁰ Riddick to Milne, 19 Sept 1961, WTL SA/NBT/H.2/8/1. Milne's reply is not preserved in the NBTF archive. No such footnote was added to Spengler's article when it was published in September 1961. See Spengler (1961).

⁵⁹¹ Riddick to Barnes, 6 Jun 1961, WTL SA/NBT/H.2/8/3. Gorrill gave MRC approval for Barnes' and Philipp's publication in November 1961. See Gorrill to Riddick, 21 Nov 1961, WTL SA/NBT/H.2/8/3.

At the next meeting, held on 27 June 1961, Baird, Organe and Gorrill agreed that enough evidence had been assembled to justify a full clinical trial of the Lucy Baldwin machine.⁵⁹² Barnes' and Philipp's reports had found that a mixture of 50% nitrous oxide / 50% oxygen provided safe and effective analgesia, and Mushin recommended that the trial should compare two concentrations of nitrous oxide / oxygen: 50% / 50% and 60% / 40%. This would mean a further technical modification to the existing prototypes. Elam's original design could be adjusted to deliver nitrous oxide / oxygen in any proportion. For an investigation involving unsupervised midwives, the machines' supply valves would have to be locked, so that they would deliver only the two trial concentrations.

Baird appointed a small working party – Barnes, Doll, Mushin, Rollason and Winner – to devise a structure for the trial. At their first meeting on 10 July, the working party decided to base their trial on the CAM investigation of Trilene.⁵⁹³ They chose seven maternity units in which trials would take place, each under the supervision of a consultant who had attended previous MRC meetings on the Lucy Baldwin machine. Rollason, meanwhile, wrote to Baird at the end of July, requesting formal permission for the trial to begin on 1 October.⁵⁹⁴ Baird, however, was on holiday throughout August, and Rollason throughout September. Preparations for the trial continued through the autumn and winter of 1961. Rollason showed the working party a copy of a record form that Doughty had drawn up for his own study of the Lucy Baldwin machine at Kingston.⁵⁹⁵ Doll and Baird thought Doughty's form far better than the existing MRC version. They agreed to adopt it for the clinical trials, and invited Doughty to join the working party.⁵⁹⁶

Further popular press coverage of the trials came in the form of an interview with Willington, now the 'organiser' of AIMS, published in the *Daily Express* in September 1961. In a style reminiscent of Elam's press statements, she claimed that the MoH had 'not even bothered to have the [Lucy Baldwin] machine tested, although it was perfected two years

⁵⁹² 'Informal meeting on clinical trial of Lucy Baldwin machine', 27 Jun 1961, TNA FD 23/1909.

⁵⁹³ 'Working party on clinical trial of Lucy Baldwin machine', 10 Jul 1961, TNA FD 23/1909.

⁵⁹⁴ Dr W Norman Rollason, consultant anaesthetist, OMRU, to Baird, 31 Jul 1961, TNA FD 23/1909.

⁵⁹⁵ Rollason to Gorrill, 23 Oct 1961, TNA FD 23/1910.

⁵⁹⁶ Baird to Gorrill, 31 Oct 1961; Doll to Gorrill, 22 Nov 1961, TNA FD 23/1910.

ago'.⁵⁹⁷ The article quoted an MRC official as saying 'Don't blame us. This is entirely a matter for the Ministry [of Health]'.⁵⁹⁸ This un-named official appears to have been Faulkner. In a memorandum to Gorrill, written the next morning, Faulkner apologised, explaining that the reporter had telephoned her at home late the previous evening, and had misquoted her answers to his questions.⁵⁹⁹ A week later, AIMS sent what it called an 'official protest' to Himsworth at the MRC, urging him to approve the Lucy Baldwin machine for use by unsupervised midwives.⁶⁰⁰ Gorrill replied on Himsworth's behalf, explaining that trials were about to begin.⁶⁰¹ The NBTF, too, maintained pressure on the CMB and MoH. Rhys-Williams continued, in her words, to 'pursue' Walker, Baird and Sir George Godber, then CMO.⁶⁰²

By December 1961 the working party had finished its preparations for the clinical trial. Baird and Gorrill decided that, as a formal clinical trial was about to begin, the committee should be formally established and given an official name. They settled on the wordy but descriptive 'committee on nitrous oxide / oxygen analgesia' (CNOOA).⁶⁰³ Clinical trials of the Lucy Baldwin machine officially began on 13 March 1962. Preliminary results, discussed at a meeting of the CNOOA on 11 July 1962, suggested a 'general impression... of satisfaction in the part of the midwives and patients with this type of analgesia'.⁶⁰⁴ The CNOOA agreed to continue the trial for another three months, after which Doll would produce a statistical analysis of the results, and BOC would check the machines for damage, wear and changes in calibration. Doll's report, completed in October 1962, was discussed at a further meeting of the CNOOA on 23 November.⁶⁰⁵ His analysis found no statistically significant differences between the analgesia provided by 50% and 60% nitrous oxide in oxygen.⁶⁰⁶ Mushin proposed a further comparative trial between 70% nitrous oxide / 30% oxygen and 50% / 50%. Baird agreed to this, and

⁵⁹⁷ Sonia Willington, AIMS, quoted in [Anon.]. (1961) Give us kill-pain machine say mothers. *Daily Express* (26 Sept): 8.

⁵⁹⁸ Ibid.

⁵⁹⁹ Faulkner to Gorrill, 26 Sept 1961, TNA FD 23/1909.

⁶⁰⁰ Willington to Himsworth, 5 Oct 1961, TNA FD 23/1909.

⁶⁰¹ Gorrill to Willington, 5 Oct 1961, TNA FD 23/1909.

⁶⁰² CMO to Winner, 8 Nov 1961; Winner to Walker, 14 Nov 1961, TNA FD 23/1910.

⁶⁰³ 'Informal meeting on clinical trial of Lucy Baldwin machine', 15 Dec 1961, TNA MH 134/147.

⁶⁰⁴ 'Minutes of a meeting of the CNOOA', 11 Jul 1962, TNA MH 134/147.

⁶⁰⁵ Doll, 'Report: clinical trial of gas/oxygen analgesia in midwifery', Oct 1962, TNA MH 134/147.

⁶⁰⁶ 'Clinical trial of gas-oxygen analgesia in midwifery', 23 Nov 1962, TNA FD 23/1911.

suggested that, in the meantime, the CMB could approve 50% / 50% mixtures for use by unsupervised midwives. Herrald sent a formal letter along these lines to Walker and to JB Dewar, chairman of the CMB for Scotland.⁶⁰⁷

At its meeting in November 1962, the CNOOA had also discussed an article published in the autumn edition of *Anaesthesia* by Dr Peter Cole and Dr RC Nainby-Luxmoore, both anaesthetists working under Macintosh in the NDA.⁶⁰⁸ Cole and Nainby-Luxmoore pointed out that the mixture of 50% nitrous oxide / 50% air supplied by the Minnitt machine contained only 10% oxygen – half that of normal atmospheric air – and that the unreliability of the Minnitt's regulator valve frequently led to an even lower proportion of oxygen. They recommended that nitrous oxide / oxygen inhalers should be taken out of service as quickly as possible.⁶⁰⁹ Baird praised Cole and Nainby-Luxmoore's work, and invited Cole to replace Woolmer on the CNOOA.⁶¹⁰

For the CMB, however, Cole and Nainby-Luxmoore's work presented a problem. Was the Minnitt machine so dangerous that it should be taken out of service immediately? And if it was, what new technique of analgesia should replace it? 50 % nitrous oxide / 50% oxygen analgesia could now, in principle, be approved for use by unsupervised midwives. But the CNOOA had given no concrete specifications for the type of machine that unsupervised midwives might be permitted to use, and the existing Lucy Baldwin machine was too heavy and too expensive for domiciliary midwifery. Fenney wrote to Herrald and Gorrill, asking if the CNOOA could prepare a technical specification for nitrous oxide / oxygen apparatus, along the lines of the CAM's specification for Trilene inhalers.⁶¹¹ At a meeting on 1 May 1963, Gorrill and Herrald agreed to put the question of a specification before the CNOOA.⁶¹² A few days later, Fenney

⁶⁰⁷ Herrald to Walker and JB Dewar, chairman, CMB for Scotland, 28 Jan 1963, TNA FD 23/1911.

⁶⁰⁸ Cole & Nainby-Luxmoore (1962). On Cole and Nainby-Luxmoore's work on this subject, see Beinart (1987), p134.

⁶⁰⁹ Cole & Nainby-Luxmoore (1962), pp516-517.

⁶¹⁰ See 'Clinical trial of gas-oxygen analgesia in midwifery', 23 Nov 1962, TNA FD 23/1911. Woolmer resigned from the Committee in October 1962 due to ill health, and died shortly afterwards. See JE Parkinson, secretary to Woolmer, to Gorrill, 25 Oct 1962, TNA FD 23/1911.

⁶¹¹ Fenney to Herrald, 13 Feb 1963; Fenney to Gorrill, 13 Feb 1963, TNA FD 23/1911.

⁶¹² 'Minute of a meeting', 1 May 1963, TNA FD 23/1911.

warned that the CMB was beginning a major review of its policy on nitrous oxide / air analgesia, and would require a concrete specification within weeks.⁶¹³

4.3.2. Entonox.

In a second letter to Herrald, written on the same day, Fenney mentioned another new method of analgesia that had been brought to the CMB's attention – pre-mixed nitrous oxide and oxygen in a single cylinder.⁶¹⁴ Tunstall, then a young consultant anaesthetist in Baird's maternity unit at Aberdeen, had been working on this new method of analgesia for more than two years.⁶¹⁵ He had come up with the idea of mixing nitrous oxide and oxygen in a single cylinder in March 1961, while working as an anaesthetics registrar under Dr RJ Hamer Hodges at the Portsmouth hospital group. In a short letter to BOC, Tunstall set out his idea and asked for their comments.⁶¹⁶ A Bracken, a research scientist in BOC's chemical department, was initially dubious: 'we cannot recommend mixing the two gases in the cylinder except under special circumstances'.⁶¹⁷

In a second letter Tunstall explained his interest in pain relief in childbirth.⁶¹⁸ The possibility of a clinical application appears to have caught Bracken's attention. In his reply he admitted that 'we have no information on the mutual solubilities of nitrous oxide in oxygen', but 'would see

⁶¹³ Fenney to Herrald, 6 May 1963, TNA FD 23/1911. The CMB sent a circular on similar lines to all county MOsH and LSAs. See Fenney to all MOsH and LSAs in England and Wales, 17 Apr 1963, WTL SA/NBT/H.2/9.

⁶¹⁴ Fenney to Herrald, 6 May 1963, TNA FD 23/1911.

⁶¹⁵ Penman of the NBTF – not an anaesthetist but an actuary – is recorded as having suggested the idea of mixing nitrous oxide and oxygen in a single cylinder more than a year before Tunstall began his work. Penman's suggestion was not followed up, and there is no evidence to suggest that his idea influenced Tunstall's work. See Penman's comments in NBTF Executive Committee meeting minutes, 12 Oct 1959, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6. For Tunstall's own, highly technical account of the development of Entonox, see Ross AS, Marr IL, Tunstall ME, 'Entonox and its development', in Smith EB, Daniels S. (eds) (1998) *Gases in medicine. Anaesthesia. The proceedings of the eighth BOC Priestley Conference organised by the Royal Society of Chemistry, held at the Scientific Societies Lecture Theatre, London and Burlington House, London, on 22-24 April 1997*. Cambridge: Royal Society of Chemistry, pp27-41.

⁶¹⁶ Dr Michael Tunstall, senior anaesthetics registrar, Portsmouth & Oxford United Hospitals, to BOC, 10 Mar 1961, copy in author's possession.

⁶¹⁷ A Bracken, chemical department, BOC, to Tunstall, 15 Mar 1961, copy in author's possession.

⁶¹⁸ Tunstall to Bracken, 17 Mar 1961, copy in author's possession.

what can be done'.⁶¹⁹ Preliminary experiments with cylinders of pre-mixed nitrous oxide and oxygen, reported in a confidential memorandum to BOC management in July 1961, led Bracken to abandon his doubtful tone. Tunstall's idea could, he argued, 'have a significant effect on the design of anaesthetic apparatus and on anaesthetic practice'.⁶²⁰ The gas mixture appeared to form a stable solution in the cylinder, and was released in a fairly constant proportion over a range of pressures. Fortuitously, a mixture of 50% nitrous oxide and 50% oxygen generated the most stable mixture.

Tunstall met Bracken and JW Haworth, the manager of BOC's chemical department, in early August 1961.⁶²¹ They agreed to provide him with cylinders of pre-mixed 50% nitrous oxide / 50% oxygen for preliminary clinical research. Despite Bracken's emphasis on urgency and confidentiality, both the CMB and NBTF appear to have been aware of Tunstall's work on pre-mixed gases around the same time. In March 1961 Tunstall and Hamer Hodges had applied to the NBTF for a grant to make an educational film, illustrating their method of general anaesthesia for caesarean section.⁶²² Though the Executive Committee rejected their application, Tunstall stayed in contact with the NBTF.⁶²³ Riddick kept him informed on the progress of the Lucy Baldwin machine trials, while Tunstall sent draft questionnaires, for a planned survey of obstetric anaesthesia in British hospitals, to the Executive Committee for their comments.⁶²⁴ In her notes of a conversation with Fenney in July 1961 Riddick noted, cryptically, that the Executive Committee were 'anxious to help Dr Tunstall at Portsmouth (works under Dr Hamer Hodges) re: permission for midwives'.⁶²⁵

By the autumn of 1961, Tunstall had begun to use pre-mixed nitrous oxide / oxygen analgesia on the maternity wards at Portsmouth. He published a short description in the *Lancet*

⁶¹⁹ Bracken to Tunstall, 24 Mar 1961, copy in author's possession.

⁶²⁰ Bracken, 'Confidential. Mixture of gases in cylinders. Some preliminary results', 6 Jul 1961, TNA DV 11/224.

⁶²¹ JW Haworth, manager, chemical department, BOC, to Tunstall, 11 Aug 1961, copy in author's possession.

⁶²² Tunstall to Riddick, 6 Mar 1961, WTL SA/NBT/J.11/2.

⁶²³ The film was eventually made in 1962, with sponsorship from BOC. See 'General anaesthesia for caesarean section', Eothen Films, 1962, DVD, copy in author's possession.

⁶²⁴ Respectively, Riddick to Tunstall, 24 Jul 1961; Tunstall, 'Draft questionnaire' and covering letter, Jul 1961, WTL SA/NBT/J.11/2

⁶²⁵ Riddick, 'Note of a telephone conversation', 5 Jul 1961, WTL SA/NBT/H.2/8/3.

in October 1961, in which he stressed the inherent safety of his technique. Its high proportion of oxygen depended 'neither on a mixing device nor on two cylinders with different rates of emptying'.⁶²⁶ In a letter to Riddick he claimed that the new method was far superior to nitrous oxide / air, and asked if the NBTF would fund a trial of pre-mixed nitrous oxide / oxygen analgesia in domiciliary midwifery, or a comparative study of pre-mixed nitrous oxide / oxygen and the Lucy Baldwin machine.⁶²⁷ Riddick raised Tunstall's proposal with the Executive Committee, the CMB and BOC, who had 'ideas for domiciliary apparatus'.⁶²⁸ All were interested in a clinical trial, but felt that Tunstall should be encouraged to do more research first. Tunstall agreed to re-apply when he had completed his registrarship and acquired a consultant post.

In February 1962 Tunstall moved to the NDA for the second part of his registrarship.⁶²⁹ Two of his new colleagues at the NDA – Epstein, a former member of the CAM, and Cole, recently appointed to the CNOOA – began to work on the technical aspects of pre-mixed nitrous oxide / oxygen. In a preliminary test, they discovered what appeared to be a serious problem: the two gases separated if the cylinder was cooled.⁶³⁰ For the remainder of his time at the NDA, Tunstall abandoned his work on pre-mixed nitrous oxide / oxygen. He later recalled that Rollason had seen him deliver a paper on obstetric anaesthesia in the autumn of 1962, and had suggested that he should apply for a new consultant post at Aberdeen.⁶³¹

As professor of obstetrics at Aberdeen and director of the OMRU, Baird insisted that his maternity unit should include anaesthetists with a special interest in obstetric anaesthesia. One of Baird's anaesthetics protégés, Jeffrey Selwyn Crawford, held an MRC clinical fellowship in

⁶²⁶ Tunstall ME. (1961) Preliminary communication. Obstetric analgesia. The use of a fixed nitrous oxide and oxygen mixture from one cylinder. *Lancet* II: 964.

⁶²⁷ Tunstall to Riddick, 13 Oct 1961, 2 Nov 1961, WTL SA/NBT/J.11/2.

⁶²⁸ Riddick, 'Note of a telephone conversation', 10 Oct 1961, WTL SA/NBT/H.2/8/3; NBTF Executive Committee meeting minutes, 8 Jan 1962, in NBTF general minutes book Jan 1957 – Feb 1962, WTL SA/NBT/A.1/6.

⁶²⁹ Tunstall, 'Curriculum vitae', copy in author's possession.

⁶³⁰ Ibid. Cole published an account of his work on pre-mixed nitrous oxide / oxygen in 1964. See Cole PV. (1964) Nitrous oxide and oxygen from a single cylinder. *Anaesthesia* 19: 3-11. See also Beinart (1987), p134.

⁶³¹ Transcript of author's interview with Dr Michael Tunstall, consultant anaesthetist, Aberdeen University Hospital, 17 Nov 2004.

obstetric anaesthesia, and had carried out research on this subject in the OMRU.⁶³² But Crawford had recently left for the US, and a new consultant post had been created to replace him. Tunstall applied, was successful, and in December 1962 took up the post. Aberdeen was one of the centres of the MRC's Lucy Baldwin machine trial, and Baird encouraged Tunstall both to get involved and to resume his own research: 'I took my cylinders down to Donald's ice cream factory, in my Mini, and froze them overnight down to minus 25C'.⁶³³

In early January 1963, Tunstall told BOC that he had found a solution to the problem of gas separation after cooling.⁶³⁴ Smaller cylinders, intended for domiciliary use, should be warmed to room temperature and inverted three times. Inverting the larger cylinders designed for hospital use was, in Tunstall's phrase, 'unhandy', but a similar result could be achieved by resting them on their sides in a warm room for 24 hours.⁶³⁵ This time, BOC approached the NBTF for a contribution to Tunstall's research expenses.⁶³⁶ The Executive Committee, frustrated with the MRC's apparent lack of progress with the Lucy Baldwin machine, invited Tunstall to submit 'an application for a small grant' [original emphasis].⁶³⁷ He applied for £200, to fund the development of light-weight aluminium alloy cylinders and regulator valves specifically for use by domiciliary midwives.⁶³⁸ The Executive Committee approved his application in April 1963, and paid the first instalment of £100 in early June.⁶³⁹ They pointed out, however, that 'the MRC should be supporting you in this work', and wrote to Gorrill to make clear that the NBTF were 'providing this grant in order to expedite conclusions as to the use of gas and oxygen in

⁶³² Jeffrey Selwyn Crawford, consultant anaesthetist, Birmingham Maternity Hospital, 'Curriculum vitae' (undated), copy in author's possession.

⁶³³ Transcript of author's interview with Tunstall.

⁶³⁴ WD Hollidge, BOC, to Riddick, 10 Jan 1963, WTL SA/NBT/H.2/8/5.

⁶³⁵ Tunstall published a report of his techniques for re-mixing in October 1963. See Tunstall ME. (1963) Effect of cooling on pre-mixed gas mixtures for obstetric analgesia. *BMJ* II: 915-917.

⁶³⁶ Hollidge to Riddick, 10 Jan 1963, WTL SA/NBT/H.2/8/5.

⁶³⁷ NBTF Executive Committee meeting minutes, 14 Jan 1963, in NBTF general minutes book Mar 1962 – Oct 1965, WTL SA/NBT/A.1/6; Riddick, 'Note of a telephone conversation', 15 Jan 1963, WTL SA/NBT/H.2/8/5.

⁶³⁸ Tunstall to Riddick, 13 Feb 1963, WTL SA/NBT/J.11/2.

⁶³⁹ Riddick to Tunstall, 3 Apr 1963, WTL SA/NBT/J.11/2.

obstetrics'.⁶⁴⁰ Tunstall also wrote to Gorrill, and when in early May they met to discuss his work she offered to raise it at the next meeting of the CNOOA.⁶⁴¹

4.3.3. Bringing nitrous oxide / oxygen analgesia into clinical service 1965-1975.

Through the spring of 1963 the clinical trials of the Lucy Baldwin machine had continued. The CMB maintained its pressure on Baird and Gorrill for a concrete technical specification for nitrous oxide / oxygen inhalers.⁶⁴² Without this, Walker insisted, the CMB could not approve Entonox or the Lucy Baldwin machine for use by unsupervised midwives. In May Gorrill, acknowledging that 'scientific advice is urgently needed' but perceiving no movement within the MRC, suggested that Baird appoint a 'technical sub-committee' composed of anaesthetists involved in the clinical trials of the Lucy Baldwin machine.⁶⁴³ Gorrill suggested Cole, Epstein, Doughty and Tunstall as members. At the next full meeting of the CNOOA in July 1963, Baird approved the establishment of the technical sub-committee, with Gorrill's proposed remit and membership.⁶⁴⁴ The technical sub-committee met for the first time in October 1963 (without Tunstall, detained in Aberdeen).⁶⁴⁵ Cole, Epstein and Doughty agreed that Woolmer's original work on the technical aspects of the Lucy Baldwin machine was inadequate. In order to draw up an effective specification, Epstein offered to perform a new set of technical trials in the NDA laboratories. This would mean withdrawing about half of the existing Lucy Baldwin machines from the clinical trials. He would then circulate his draft specification to Doughty, Tunstall and Cole. Once the technical sub-committee had agreed on a final draft, they would circulate it to

⁶⁴⁰ Ibid. Following the success of Tunstall's application, the Executive Committee also approved grants of £500 to Mushin, to study the consumption of pre-mixed nitrous oxide / oxygen in obstetrics, and £150 to Dr PO Bodley and Dr TGL Allum, anaesthetics registrars working with Philipp at Romford, for further work on pre-mixed nitrous oxide / oxygen analgesia in domiciliary midwifery. See NBTF Executive Committee meeting minutes, 9 Sept 1963, 27 Jan 1964, in NBTF general minutes book Mar 1962 – Oct 1965, WTL SA/NBT/A.1/6.

⁶⁴¹ Tunstall to Gorrill, 26 Apr 1963; Gorrill, 'Note for file', 3 May 1963, TNA FD 23/1911.

⁶⁴² Fenney to Herrald, 6 May 1963, TNA FD 23/1911.

⁶⁴³ Gorrill to Herrald, 17 May 1963, TNA FD 23/1911.

⁶⁴⁴ 'CNOOA', 1 Jul 1963, TNA FD 23/1911.

⁶⁴⁵ 'Committee on Gas / Oxygen Analgesia in Midwifery. Technical sub-committee for specification of apparatus', 4 Oct 1963, TNA FD 23/1911.

the CNOOA and the CMB. This process, they acknowledged, would take several months at least, and would disrupt the existing clinical trials.⁶⁴⁶

Tunstall, meanwhile, continued his research on pre-mixed nitrous oxide / oxygen analgesia.⁶⁴⁷ He was increasingly sure that 50% nitrous oxide / 50% oxygen mixtures, rather than the 70% / 30% mixture currently in use in the Lucy Baldwin machine trials, gave the safest and most effective analgesia.⁶⁴⁸ He was confident that all the significant technical and clinical aspects of pre-mixed nitrous oxide / oxygen analgesia had been addressed, 'though', he acknowledged, 'I am of course biased'.⁶⁴⁹

While Tunstall's research continued, the CNOOA's work came under further criticism. The clinical trials of the Lucy Baldwin machine came to an end in the autumn of 1963, but the CMB, NBTF and BOC became increasingly concerned at the MRC's delay in issuing a final report.⁶⁵⁰ In January 1964 Rhys-Williams wrote again to Godber, arguing that the unsatisfactory condition of the Minnitt machines still in use, some of them supplied by the NBTF before the start of the Second World War, made the approval of '50/50' and the 'forward provision of domiciliary apparatus' a matter of urgency.⁶⁵¹ Godber replied in emollient mood, emphasising the importance of comprehensive and properly controlled clinical trials, and pointing out that Entonox appeared to be an ideal solution to the problem of analgesia in domiciliary midwifery.⁶⁵²

BOC, meanwhile, had taken matters into its own hands. In the autumn of 1963, with advice from the MoH's supplies division, it drew up a technical specification for pre-mixed nitrous oxide / oxygen analgesia, now known by the trade name 'Entonox', and submitted it to Gorrill.⁶⁵³ Since the CNOOA had recommended 50% nitrous oxide / 50% oxygen mixtures for

⁶⁴⁶ Ibid.

⁶⁴⁷ Tunstall to Riddick, 18 Oct 1963, WTL SA/NBT/J.11/2. Tunstall published the results of his NBTF-sponsored research in 1964, emphasising the suitability of his technique for domiciliary midwifery. See Gale CW, Tunstall ME, Wilton-Davies CC. (1964) Premixed gas and oxygen for midwives. *BMJ* I: 732-736.

⁶⁴⁸ Tunstall to Riddick, 1 Nov 1963, WTL SA/NBT/J.11/2.

⁶⁴⁹ Ibid.

⁶⁵⁰ The end of the trials is discussed in Gorrill to Faulkner and Herrald, 7 Jan 1964, TNA FD 23/1912.

⁶⁵¹ Rhys-Williams to Godber, 7 Jan 1964, WTL SA/NBT/H.2/9.

⁶⁵² Godber to Rhys-Williams, 17 Jan 1964, WTL SA/NBT/H.2/9.

⁶⁵³ 'BOC. Draft specification. Portable apparatus for administering premixed nitrous oxide and oxygen for analgesia', 15 Oct 1963, TNA FD 23/1912.

use by unsupervised midwives, could it be persuaded to examine and approve Entonox immediately? Gorrill put BOC's proposal to Faulkner and Herrald, but they agreed that 'as this falls very much on the 'developmental research' side... we cannot see this through'.⁶⁵⁴ The matter would have to be referred again to the CNOOA. BOC's sales manager, AL Cornford, set out his criticisms of the MRC trial in a letter to Riddick:

[The Lucy Baldwin machines] have now been out on trial for over two years, and quite apart from the cost of the machines, we have been put to the cost of moving them all over the country, bringing them back to London to send them down to Oxford, so that they could be tested by Dr Epstein, and then bringing them back. We have lost a very considerable amount in sales as most hospitals are not prepared to purchase the Lucy Baldwin until the question of mixtures is settled... Furthermore, of the machines which have been collected for passing to Dr Epstein, all show signs of being tampered with.⁶⁵⁵

As a result of Cornford's letter, the NBTF put more pressure on the MoH. In her last letter on this subject, Rhys-Williams wrote to Walker, asking if there was 'anything I can do to bring pressure to bear'.⁶⁵⁶ In late January 1964 Godber wrote to Himsworth, asking for any information on the Lucy Baldwin machine trials that might placate Rhys-Williams.⁶⁵⁷ In her reply, on Himsworth's behalf, Gorrill found few positive things to say.⁶⁵⁸ A computer failure had delayed the statistical analysis of the trial data, and the technical sub-committee showed no signs of completing a technical specification for the CMB. Baird agreed that the CNOOA should be brought to a swift and constructive conclusion.⁶⁵⁹

An opportunity for constructive discussion came at the next meeting of the CNOOA and the technical sub-committee in March 1964, when Doll presented his statistical analysis of the Lucy

⁶⁵⁴ Gorrill to Faulkner and Herrald, 7 Jan 1964, TNA FD 23/1912.

⁶⁵⁵ AL Cornford, BOC, to Riddick, 15 Jan 1965, WTL SA/NBT/H.2/9.

⁶⁵⁶ Rhys-Williams to Walker, 13 Mar 1964, WTL SA/NBT/H.2/9.

⁶⁵⁷ Godber to Himsworth, 22 Jan 1964, TNA FD 23/1912.

⁶⁵⁸ Gorrill to Godber, 12 Feb 1964, TNA FD 23/1912. On the computer failure, see also ID Hill, MRC statistical unit, to Gorrill, 10 Feb 1964, TNA FD 23/1912.

⁶⁵⁹ Baird to Gorrill, 29 Jan 1964, TNA FD 23/1912.

Baldwin machine trial data.⁶⁶⁰ Though members of the CNOOA argued that too little was known about the pharmacology of nitrous oxide analgesia, Baird again claimed that this question was largely irrelevant. 'For practical purposes', he wrote, 'an optimum mixture needed to be recommended which was safe for use by all midwives under whatever circumstances'.⁶⁶¹ The CNOOA repeated its recommendation that the CMB approve 50% / nitrous oxide / 50% oxygen mixtures for use by unsupervised midwives, and turned to the question of approving particular apparatus. Baird welcomed BOC's draft Entonox specification, and the CNOOA agreed to recommend Entonox for CMB approval, provided that each cylinder had 'clear and accurate labelling' explaining the problems of cooling.⁶⁶² The technical sub-committee's specification for the Lucy Baldwin machine was still in draft, but the CNOOA agreed that the CMB could approve Lucy Baldwin machines for use by unsupervised midwives if their regulator valves were locked to deliver only a 50% / 50% mixture.⁶⁶³

After a year and a half of pressing for concrete recommendations on the use of nitrous oxide / oxygen by midwives, the CMB did not approve Entonox and the Lucy Baldwin machine immediately after this meeting. Instead, it embarked on its own, year-long investigation: a clinical trial of BOC's domiciliary Entonox inhaler, involving unsupervised domiciliary midwives in Kent and Lancashire.⁶⁶⁴ Archival material relating to this trial is sparse. Fenney sent regular reports to Gorrill, but otherwise the members of the CNOOA do not appear to have been formally consulted on the CMB's domiciliary Entonox trial before its end in the spring of 1965. The NBTF, too, took no further action on the nitrous oxide / oxygen trials, following Rhys-Williams' death in October 1964.⁶⁶⁵

Meanwhile, further criticism of nitrous oxide / air analgesia had appeared in the medical press. Editorials in *Anaesthesia* and the *BMJ* repeated the call for Minnitt machines to be taken

⁶⁶⁰ 'CNOOA', 26 Mar 1964, TNA FD 23/1912.

⁶⁶¹ Baird, quoted in *ibid*.

⁶⁶² Baird, quoted in *ibid*. Rollason and Tunstall submitted a draft label for Entonox cylinders to Gorrill in April 1964. See Rollason to Gorrill and Tunstall, 8 Apr 1964, TNA FD 23/1912.

⁶⁶³ Gorrill to Faulkner, 23 Apr 1964; Himsworth to Godber, 12 May 1964; TNA FD 23/1912.

⁶⁶⁴ This trial is described in Fenney to Gorrill, 29 Sept 1964, TNA FD 23/1912. I have been unable to find any further references to it in the CMB, MRC or MoH archives.

⁶⁶⁵ NBTF Executive Committee meeting minutes, 6 Oct 1964, in NBTF general minutes book Mar 1962 – Oct 1965, WTL SA/NBT/A.1/6.

out of service.⁶⁶⁶ But the anonymous commentator in *Anaesthesia* did not greet the introduction of nitrous oxide / oxygen analgesia with unalloyed optimism:

It is a sad state of affairs that inhalation analgesia can only be offered from gas / air machines that may be faulty; from gas / oxygen machines which at the present time are unsuitable for domiciliary use and whose reliability has yet to be proved; or from mixtures of nitrous oxide and oxygen in one cylinder, which it appears, cannot be used safely if the concentration of nitrous oxide exceeds 50%... Perhaps it is time to revive interest in Trilene which can at least be administered from reliable apparatus.⁶⁶⁷

The CMB ignored this ominous view, and pressed on with its domiciliary trial of Entonox. In April 1965, it sent copies of the trial report to Baird and Rollason. Both were 'quite satisfied about the specification and the mechanics of application', and welcomed the CMB's efforts in this direction.⁶⁶⁸ In early June 1965, the CMB formally adopted the CNOOA's recommendations on nitrous oxide / oxygen analgesia. It approved Entonox for use by all midwives, supervised and unsupervised, and added formal instruction on its use to the training syllabus. It also approved the Lucy Baldwin machine for use by hospital midwives, provided it was locked to deliver only a 50% / 50% mixture.⁶⁶⁹

BOC began commercial production of Entonox in the autumn of 1965.⁶⁷⁰ As Bracken had suggested in his initial report, they also began to explore other applications for pre-mixed gases. Bracken himself conducted a clinical trial of Entonox in dentistry.⁶⁷¹ The BOC sales department produced a series of 'instructional cinettes', available for free loan, illustrating the use of Entonox not only in obstetrics but also in the ambulance service, in cardiac emergency and in

⁶⁶⁶ This quote is taken from [Anon.]. (1964a) Editorial. *Anaesthesia* 19: 319-320, p319. See also [Anon.]. (1964b) Editorial. More oxygen in labour. *BMJ* I: 717-718.

⁶⁶⁷ [Anon.] (1964a), p320.

⁶⁶⁸ 'Report on trials of pre-mixed 50-50 nitrous oxide / oxygen and the 'Entonox' apparatus', Apr 1965, TNA FD 23/1912.

⁶⁶⁹ CMB minutes, 3 Jun 1965, in CMB minute book 1961-75, TNA DV 1/20.

⁶⁷⁰ The first BOC catalogue to include both Entonox and the Lucy Baldwin machine was published in November 1965. See 'BOC Medical catalogue', Nov 1965, TNA DV 11/224.

⁶⁷¹ Bracken RC, Brookes RC, Goldman V. (1966) New equipment for dental anaesthesia using premixed gases and oxygen. *BJA* 40: 903-906.

industrial accidents.⁶⁷² But the CMB's limited approval of the Lucy Baldwin machine, and previous criticism of nitrous oxide / air analgesia in the medical press, appear to have caused some confusion amongst clinical users. At a meeting in December 1965 the CMB asked Fenney to send out another circular, emphasising the conditions placed on the use of Lucy Baldwin machines by midwives.⁶⁷³ This new circular does not appear to have entirely clarified the situation. In February 1966 Dr Peter Dinnick, honorary secretary of the AAGBI, wrote to Gorrill, asking whether the CMB's new regulations meant that the Minnitt machine was 'to be formally excommunicated'.⁶⁷⁴ Several midwives approached the CMB, asking whether Entonox apparatus had to be inspected as regularly as the Minnitt machine or Trilene inhalers, as the CMB circular had not clarified this point.⁶⁷⁵ Even BOC were apparently unclear on the precise limits of the new regulations. Fenney had to reassure them that midwives were indeed permitted to use Lucy Baldwin machines without supervision, as long as the regulator valves were locked.⁶⁷⁶

Having overseen the CMB's approval of Entonox for use by unsupervised midwives and its limited approval of the Lucy Baldwin machine, some members of the CNOOA felt that its work was now complete and that it should be dissolved. The CNOOA had not met formally since March 1964, and by the autumn of 1965 Baird believed that a further meeting was unnecessary.⁶⁷⁷ Gorrill, Winner and Dr Roma Chamberlain, an MCW medical officer, agreed.⁶⁷⁸ One more meeting might be useful as a way to draw the CNOOA's work to a formal conclusion, but there was no urgency in arranging this. For the anaesthetists involved in the technical sub-committee, however, the work of the CNOOA was far from complete. At an informal meeting in November 1965, Epstein, Cole and Doughty agreed that the 'considerable'

⁶⁷² BOC, 'Entonox', 1972, TNA DV 11/224.

⁶⁷³ CMB minutes, 2 Dec 1965, in CMB minute book 1961-75, TNA DV 1/20.

⁶⁷⁴ Dr Peter Dinnick, honorary secretary, AAGBI, to Gorrill, 18 Feb 1966, TNA FD 23/1912.

⁶⁷⁵ The CMB ruled that Entonox apparatus did not need to be officially inspected on a regular basis, as the gas proportions were pre-set and 'the working parts of the apparatus can only 'fail safe''. See assistant secretary, CMB, to Mrs G Fijalkowski, matron, Scunthorpe and District War Memorial Hospital, 20 Jul 1967, TNA DV 11/226.

⁶⁷⁶ See Cornford to Fenney, 6 Jun 1966; Fenney to Cornford, 29 Jun 1966, TNA DV 11/224.

⁶⁷⁷ Baird to Rollason and Gorrill, 3 Dec 1965, TNA FD 23/1912.

⁶⁷⁸ Gorrill to Dr Roma Chamberlain, MoH, 14 Jan 1966; Winner's comments, quoted in Gorrill to Rollason, 17 Mar 1966, TNA FD 23/1912.

amount of work put into this project by CNOOA members should not be 'condemned to oblivion' by remaining unpublished.⁶⁷⁹ At the very least, the MRC should issue an official report on nitrous oxide / oxygen analgesia, as it had on the CAM investigation of Trilene.

When the MRC took no action, Epstein, Cole, Doughty and Tunstall began to prepare their own draft report for submission to the MRC. For more than a year, the members of the technical sub-committee, now calling themselves the 'sub-committee on specifications and report', continued to meet informally, though generally with Gorrill in attendance.⁶⁸⁰ In December 1966 Crawford, who had returned from the US and was now investigating the physiology of Entonox analgesia at the RCS, joined the group.⁶⁸¹ Each member worked on a separate part of the report.⁶⁸²

From the summer of 1967, it becomes increasingly difficult to trace the work of this group through archival sources. In June 1967 the sub-committee on specifications and report met again, in part to refute the view of one member of the CNOOA, who had told Doughty that that the sub-committee was 'a dead duck'.⁶⁸³ They agreed to have a full draft report completed by the end of the year, which could then be circulated to the CNOOA, the CMB and the MoH. References in subsequent correspondence suggest that the sub-committee met again in early July and October 1967, but no further minutes are preserved in the MRC archives.⁶⁸⁴ In December 1968, the CMB received what it described as 'the reports from the MRC Committee

⁶⁷⁹ 'CNOOA', 12 Nov 1965, TNA FD 23/1912. This meeting appears to have been held without the knowledge of Gorrill, Baird or any other members of the parent Committee.

⁶⁸⁰ Gorrill, 'Minutes of informal meeting', 9 Nov 1966, FD 23/1913; Gorrill, 'Minutes of informal meeting', 9 Mar 1967, 5 May 1967, 7 Jul 1967, TNA FD 23/1914.

⁶⁸¹ Gorrill, 'Minutes of informal meeting', 2 Dec 1966, FD 23/1913. Crawford's research fellowship at the RCS was to end in December 1967, and he initially planned to return to the US. In June 1967 John Robinson, then professor of anaesthetics at the University of Birmingham, wrote to the MoH, urging them to create a new consultant post in obstetric anaesthesia so that Crawford, whom he described as 'a world authority... in this 'Cinderella speciality'', could continue his research in Britain. See Robinson to Henry Yellowlees, MoH, 16 Jun 1967, copy held privately by Tunstall. The new post was created, and Crawford moved to Birmingham in December 1967. See Crawford, 'Curriculum vitae', copy in author's possession. Another of Crawford's research projects at this time, on neonatal asphyxiation, was funded by the NBTF. In October 1966 the Executive Committee agreed to provide £900 over three years. Papers relating to Crawford's grant application are held in WTL SA/NBT/J.14.

⁶⁸² This arrangement was agreed in December 1966. See Gorrill, 'Minutes of informal meeting', 2 Dec 1966, FD 23/1913.

⁶⁸³ Doughty to Gorrill, 20 May 1967, TNA FD 23/1914; Gorrill, 'Note on a further informal meeting', 2 Jun 1967, TNA FD 23/1915.

⁶⁸⁴ Rollason to Gorrill, 19 Jul 1967; Rollason to Gorrill, 6 Sept 1967, TNA FD 23/1915.

on Nitrous Oxide and Oxygen Analgesia in Midwifery'.⁶⁸⁵ But the minutes of MRC council meetings held between 1966 and 1969, and the MRC's annual reviews for 1968 and 1969, make no reference to any such report being officially received or issued.⁶⁸⁶

In 1970 Baird and the other members of the CNOOA published an article in the *BMJ*.⁶⁸⁷ Here, they repeated the conclusion that the CNOOA had drawn in 1965: 50% nitrous oxide / 50% oxygen mixtures were safe for use by unsupervised midwives. More concrete guidelines on technical specifications would, they promised, be appearing shortly. These guidelines appeared over the next year, in the form of two articles in *Anaesthesia*, written by the sub-committee on specifications and report.⁶⁸⁸ These articles made no mention of the earlier paper in the *BMJ*, and the MRC, CMB and MoH archives contain no references to the preparation, publication or official endorsement either of Baird's or the sub-committee's articles.

Despite the delay in the appearance of these specifications and reports, the CMB, MoH and BOC had, since 1965, continued to encourage the use of nitrous oxide / oxygen analgesia, with particular emphasis on Entonox. In February 1967 Godber sent a circular to all hospital management committees, in which he identified Entonox as 'the ideal analgesic for administration by midwives'.⁶⁸⁹ From this point onwards Entonox, whether piped or from portable cylinders, was the main officially sanctioned system for delivering nitrous oxide / oxygen analgesia in all circumstances.⁶⁹⁰ The CMB formally extended its approval of Entonox, to include the use of piped systems by unsupervised midwives.⁶⁹¹

This emphasis on Entonox reflected the declining fortunes of the Lucy Baldwin machine and the Minnitt machine in this period. In March 1969, BOC reported to the CMB that only around

⁶⁸⁵ RM Shaw, deputy CMO, MoH, to Humphrey Arthure, chairman, CMB, 6 Dec 1969, TNA DV 11/319.

⁶⁸⁶ The MRC council meeting minutes for 1966-1969, which contain copies of the MRC annual reviews of research programmes for this period, are held in TNA FD 6/23 and TNA FD 6/24.

⁶⁸⁷ Baird D et al. (1970) Clinical trials of different concentrations of oxygen and nitrous oxide for obstetric analgesia. Report to the MRC of the Committee on Nitrous Oxide and Oxygen Analgesia in Midwifery. *BMJ* I: 709-713.

⁶⁸⁸ Cole PV et al. (1970) Specifications and recommendations for nitrous oxide-oxygen apparatus to be used in obstetric analgesia. *Anaesthesia* 25: 317-327; idem. (1971) Specifications for obstetric analgesia apparatus. *Anaesthesia* 26: 391.

⁶⁸⁹ Godber, 'Circular', 2 Feb 1967, TNA DV 11/224.

⁶⁹⁰ Crawford protested this decision in a letter to Fenney. Birmingham had 'spent a considerable sum on free-running machines' and, in his view, the Lucy Baldwin machine was perfectly safe for use by properly trained midwives, supervised or not. See Crawford to Fenney, 26 Feb 1968, TNA DV 11/224.

⁶⁹¹ CMB minutes, 5 Mar 1970, in CMB minute book 1961-75, TNA DV 1/20.

900 Minnitt machines remained in service.⁶⁹² Most of these would fall out of use when BOC introduced a new 'pin index' cylinder head design in the next few months. In any case, BOC was preparing to end its regular servicing of Minnitt machines in the spring of 1971. In October 1969 the CMB sent a circular to midwifery training schools and MOsH, formally withdrawing its approval of Minnitt-type nitrous oxide / air inhalers.⁶⁹³

BOC had initially marketed Entonox and the Lucy Baldwin machine side by side, and extended its Medishield maintenance service to cover the servicing of both systems.⁶⁹⁴ BOC catalogues and price lists in the CMB archive show that, although cylinders for the two systems were sold at similar prices, a Lucy Baldwin machine cost around ten times as much as an Entonox inhaler.⁶⁹⁵ Correspondence between BOC and the CMB in this period contains no formal reference to the relative sales or profitability of the two machines, but by 1974 the Lucy Baldwin machine was no longer advertised in BOC catalogues.⁶⁹⁶

4.4. Conclusion.

The CMB's approval of nitrous oxide / oxygen analgesia for use by unsupervised midwives was, in one sense, a turning point in the provision of obstetric analgesia in England and Wales. This technique emerged in part from the CMB's and NBTF's attempts to find new methods of analgesia suitable for use by unsupervised midwives. These organisations sought to improve the position of midwives, in the face of the challenge posed to their professional status and practice by the hospitalisation of birth after the end of the Second World War. Since the 1930s, the CMB, the NBTF and, to a lesser extent, the MoH had based their approach to analgesia in midwifery on a perceived link between the status of the midwife, her ability to relieve the pain of childbirth, and the effectiveness and safety of the service she could provide to mothers. This perception was reflected in early investigations of new analgesics. Both Trilene and pethidine

⁶⁹² DC Smith, marketing manager, BOC, to Irene Ward, CMB, 7 Mar 1969, TNA DV 11/224.

⁶⁹³ 'Circular to all midwifery training schools and MOsH', 15 Oct 1969, TNA DV 11/224.

⁶⁹⁴ See 'BOC Medical catalogue', Feb 1968, TNA DV 11/224.

⁶⁹⁵ In its November 1965 catalogue BOC Medical listed a complete domiciliary Entonox inhaler at £25, and a complete Lucy Baldwin machine at £230. See 'BOC Medical catalogue', Nov 1965, TNA DV 11/224.

received CMB approval in part because of their safety and suitability for use by unsupervised domiciliary midwives. Tunstall, too, situated his early work on nitrous oxide / oxygen analgesia in this context, citing domiciliary midwives as major users of his new technique.

But by the late 1960s and early 1970s, as the proportion of hospital births in England and Wales rose to 90%, domiciliary midwifery ceased, at least in terms of the numbers of births attended, to be a major part of maternity care under the NHS. Throughout this period, government policy focused on the hospitalisation of local maternity services, including antenatal and obstetric care. This resulted in the integration of midwives into the administrative and clinical structures of hospital nursing, and the erosion of professional distinctions between nurses and midwives, as expressed in the conclusions of the Aitken and Salmon reports. This shift appears to have reflected the official and medical attitudes to Entonox. Though Entonox was approved by the CMB for use by unsupervised midwives, and promoted by BOC as a replacement for the Minnitt machine in domiciliary practice, this new mode of obstetric analgesia was not overtly identified with any one group of practitioners. But the continued interest taken by obstetricians, anaesthetists and the CMB in finding new methods of analgesia suitable for use by domiciliary midwives, and later debates over the role of midwives in 'topping up' epidurals, discussed in section 6.3.3, suggest that midwives had not been eliminated entirely from the provision of obstetric analgesia.

The work of the CNOOA also appears to have reflected the developing status of anaesthesia as a speciality in this period, and the growing involvement of anaesthetists in the development and provision of pain relief in childbirth, in the context of a rising rate of hospital birth. In his 1939 history of obstetric anaesthesia, discussed in chapter 2, Claye had identified obstetric anaesthesia as a major duty of obstetricians. The major role taken by anaesthetists in the MRC's investigation of nitrous oxide / oxygen analgesia suggests that, by the 1960s, this view was changing. For a small group of consultant anaesthetists – Tunstall, Doughty, Crawford – the MRC committee provided an official context in which they could develop both their clinical interest in obstetric anaesthesia and their professional identity as obstetric anaesthetists. This identity found one expression in the foundation of the OAA, and was developed and contested

⁶⁹⁶ 'BOC Medical catalogue', Oct 1974, TNA DV 11/224.

in the successor to the CNOOA – the RCOG ad hoc committee on the relief of pain in labour, discussed in chapter 6.

But there is something missing from this account. So far this chapter has focused on the development and approval of new techniques of obstetric analgesia, while paying little or no attention to their subsequent use. Once they had received CMB approval, how effective were these techniques, and how widely were they used in obstetric or midwifery practice? The final section of this chapter examines central governmental attempts to address this question. In the late 1940s and early 1950s, considerable official interest was shown in collecting and analysing data on the use of these new techniques. From 1953, however, the analysis and publication of these data was left to the NBTF, and in 1957 the NBTF abandoned this task.

In the late 1940s, MCW officials were involved in the collection of data on anaesthesia and analgesia in domiciliary and hospital birth. In the autumn of 1949, Winner published a survey of all births in NHS hospitals in the week ending 23 April 1949, analysed by the type of anaesthesia or analgesia administered, in the MoH's in-house journal.⁶⁹⁷ In her conclusion she noted that, according to these data, over 90% of all women delivered in hospital received some form of pain relief. In the introduction to her paper Winner stressed the point that, although the subject of her research was 'of general interest', the paper was a clerical rather than a clinical exercise.⁶⁹⁸

After the publication of Winner's paper, MCW appears to have collected data more regularly on analgesia in domiciliary midwifery.⁶⁹⁹ But MCW papers from this period make only sparse references to the collection of these data returns, and give few clues as to the location and fate of the returns themselves. Moreover, MCW appears to have made very little use of these data. Between 1950 and 1957, the only regular analyses of this material were Penman's yearly reports on analgesia administered in domiciliary confinements, prepared at the NBTF and circulated to

⁶⁹⁷ Winner AL. (1949) Anaesthesia and analgesia in hospital confinements. *Monthly Bulletin of the Ministry of Health and the Public Health Laboratory Service* 8: 146-148.

⁶⁹⁸ Ibid., p148.

⁶⁹⁹ Taylor to Dr ER Bransby, MoH, 27 Oct 1953, TNA MH 134/148.

the MoH and CMB.⁷⁰⁰ In these documents, Penman concluded that the proportion of domiciliary confinements in England and Wales receiving some form of analgesia was increasing steadily, from 43% in 1949 to 87% in 1956.⁷⁰¹

The nature of Penman's involvement with this project is far from clear. In each report he acknowledged that the data on which his reports were based were supplied by MCW. But correspondence in the MCW or NBTF archive casts little light on the nature and origins of Penman's relationship with MCW, and the reasons for his abandonment of this project in 1957. Data from Penman's reports were used to support ongoing NBTF campaigns to improve the provision of pain relief in childbirth. This, in turn, appears to have resulted in the only other official statistical investigation of obstetric analgesia in this period.

In August 1953 Patricia Hornsby-Smith, then Conservative parliamentary secretary for health, complained that official statistical data on analgesia in domiciliary midwifery were being used by 'certain organisations' – presumably the NBTF – to 'fan up a campaign' against the government.⁷⁰² A few weeks later Penman approached the RCM, with a proposal to carry out a more detailed statistical investigation of pain relief in childbirth.⁷⁰³ The secretary of the RCM wrote to the MoH, asking for their advice on this scheme.⁷⁰⁴ MCW officials decided that a joint RCM / NBTF / MCW investigation of this subject would not only provide an opportunity for a more detailed and comprehensive study, but would also help MCW to 'keep the initiative' and to 'ensure that our enquiry will not be attacked by the NBTF'.⁷⁰⁵

By November 1953, MCW had modified its position. The NBTF and RCM would advise on the study, but the actual work and analysis would be carried out by Dr ER Bransby, an MoH

⁷⁰⁰ Papers relating to Penman's reports, and copies of the reports themselves, are held in WTL SA/NBT/H.4/5. Each report was based on data collected over the previous calendar year, so the reports themselves covered the period 1949-1956.

⁷⁰¹ Penman, 'Report on analgesia by 'gas and air', by Trilene and by pethidine, administered in domiciliary confinements in 1956', Oct 1957, WTL SA/NBT/H.4/5.

⁷⁰² Patricia Hornsby-Smith MP to Lady Priscilla Tweedsmuir MP, 20 Aug 1953, TNA MH 134/142. On Hornsby-Smith, see Jones H, 'Smith, (Margaret) Patricia Hornsby-, Baroness Hornsby-Smith (1914-1985)', *ODNB*.

⁷⁰³ I have been unable to trace Penman's letter to the RCM, but its contents are discussed in Audrey Wood, general secretary, RCM, to GT Milne, MoH, 20 Oct 1953, TNA MH 134/148.

⁷⁰⁴ *Ibid.*

⁷⁰⁵ Respectively, Russell-Smith to Milne, 14 Oct 1953; Taylor to Bransby, 27 Oct 1953, TNA MH 134/148.

statistical officer.⁷⁰⁶ Bransby's study, carried out between November 1954 and January 1955, was based on tick-box questionnaires circulated to domiciliary midwives in 31 county boroughs and county council areas.⁷⁰⁷ By February 1955, he had submitted a draft of his report to the CMO. One major aim of Bransby's investigation had been to provide evidence for an official response to NBTF criticisms. But his conclusion – that '[pain] relief is provided at a high or low level depending on the strength of the local authority's desire to provide it and their efficiency in doing so' – was 'precisely the point made by Lady Rhys-Williams and other critics and cannot be refuted'.⁷⁰⁸ The MoH had already agreed to distribute Bransby's report, in strict confidence, to the NBTF, RCM, RCOG and CMB. But any 'wider publication' might 'carry certain invidious implications', particularly for the local authorities involved in the study.⁷⁰⁹ Official publication might also encourage the NBTF to call for action in response to the report. As CMO, Godber also took this view, and the MoH dropped its plans for official publication.⁷¹⁰ Bransby published his report in the MoH journal in 1956, but only after recasting the study as a statistical exercise in the manner of Winner's 1949 paper, and playing down his main conclusion.⁷¹¹

After 1956, the MoH appears to have made no further statistical investigations of analgesia in domiciliary midwifery. MoH and MCW papers give no reasons for this decision. Did the growth of hospital birth, and the parallel decline in home birth, make further studies unnecessary, as obstetric analgesia was brought under the supervision of hospital-based consultant obstetricians and anaesthetists? This seems unlikely. In the late 1950s around 40% of births in England and Wales took place in the mother's home. Or had the number of new analgesic techniques rendered such studies too complex to carry out successfully? Again, this is not an entirely satisfactory answer. In another, related field MCW was taking a keen interest in

⁷⁰⁶ 'Minutes of a meeting', 6 Nov 1953, TNA MH 134/148.

⁷⁰⁷ Bransby outlined the structure of his enquiry in his first draft report. See Bransby, 'Results of an enquiry into relief given to mothers confined at home', Feb 1955, TNA MH 134/148.

⁷⁰⁸ Milne, 'Minute to CMO', 25 Jul 1955, TNA MH 134/148.

⁷⁰⁹ Ibid.

⁷¹⁰ Godber, handwritten reply below the text of *ibid*.

⁷¹¹ Bransby ER. (1956) An enquiry into relief given to mothers confined at home. *Monthly Bulletin of the Ministry of Health and the Public Health Laboratory Service directed by the MRC* 15: 206-214.

the collection of data on obstetrics and midwifery. This investigation – the Confidential Enquiries into Maternal Deaths – is the subject of chapter 5.

Chapter 5. ‘Showing up the gaps in the maternity services’?: obstetric anaesthesia in the Confidential Enquiries into Maternal Deaths in England and Wales 1945-1975.⁷¹²

On 1 July 1957 Her Majesty’s Stationery Office (HMSO) published the first *Report on Confidential Enquiries into Maternal Deaths in England and Wales*, an analysis of 1,094 of the 1,404 maternal deaths reported to the registrar-general for England and Wales between January 1952 and December 1954.⁷¹³ Two factors differentiated the *Reports on Confidential Enquiries* from their pre-war predecessors such as the DCMMM and the annual reports of the CMO.⁷¹⁴ First, their stated intention of comprehensiveness. The *Reports* aimed to investigate every maternal death that took place in England and Wales.⁷¹⁵ Second, their overt criticism of the medical profession. For the first time, detailed, case-based chapters written by leading physicians, which drew attention to defects in the antenatal, intranatal and postnatal care of mothers, were freely available to the medical profession, public and popular press. Clinicians and practitioner-historians repeatedly cite the *Reports* as a major influence on practice and

⁷¹² Quoted from [Anon.]. (1972) Annotations. Maternal deaths. *Lancet* II: 370.

⁷¹³ The first seven *Reports on Confidential Enquiries* were, in the order of their publication, Walker et al (1957); idem. (1960) *Report on confidential enquiries into maternal deaths in England and Wales, 1955-57*. Reports on public health and medical subjects no. 103. London: HMSO; idem. (1963) *Report on confidential enquiries into maternal deaths in England and Wales, 1958-60*. Reports on public health and medical subjects no. 108. London: HMSO; idem. (1966) *Report on confidential enquiries into maternal deaths in England and Wales, 1961-63*. Reports on public health and medical subjects no. 115. London: HMSO; Arthur H et al. (1969) *Report on confidential enquiries into maternal deaths in England and Wales, 1964-66*. Reports on public health and medical subjects no. 119. London: HMSO; idem. (1972) *Report on confidential enquiries into maternal deaths in England and Wales, 1967-69*. Reports on health and social subjects no. 1. London: HMSO; idem. (1975) *Report on confidential enquiries into maternal deaths in England and Wales, 1970-72*. Reports on health and social subjects no. 11. London: HMSO.

⁷¹⁴ See, for example, Newman G. (1930) *Annual report of the Chief Medical Officer: for the year ended 31 December 1929*. London: HMSO. For the sake of brevity and clarity, I will refer to post-war published *Reports on Confidential Enquiries into Maternal Deaths in England and Wales* as ‘the *Reports on Confidential Enquiries*’ and to the structures, people and processes established after the creation of the NHS to prepare these documents as ‘the Confidential Enquiries’. A number of files relating to the post-war Confidential Enquiries held in the National Archive contain personal information relating to individual maternal deaths, and are therefore closed under the terms of the Data Protection Act, 1998.

⁷¹⁵ Defined as the death of the mother during pregnancy, delivery or within one year of delivery. On the definitions employed in the *Reports on Confidential Enquiries*, see Walker AJ et al. (1957) *Report on confidential enquiries into maternal deaths in England and Wales, 1952-1954*. Reports on public health and medical subjects no. 97. London: HMSO, p2.

research both in obstetrics and anaesthetics in England and Wales in the second half of the twentieth century.⁷¹⁶

Historiographical interpretations of this influence have varied. Rhodes sees the *Reports on Confidential Enquiries* as an unproblematic force for good, making birth safer by improving practice in obstetrics and anaesthesia.⁷¹⁷ Mander is more critical, identifying the *Reports* as a significant step in the creation of a hospital-centred hierarchy of maternity care in which midwives were subordinated by obstetricians and anaesthetists seeking to reinforce their professional authority.⁷¹⁸ The aim of this chapter is to examine the structures involved in the production of the *Reports* – both the administrative structures in which data was collected and analysed, and the rhetorical structures deployed in the *Reports* themselves – in order to explore their impact on anaesthetics practice, the emerging professional identity of obstetric anaesthetists, and the relationship between obstetric anaesthesia and the hospitalisation of birth.

In the first seven *Reports on Confidential Enquiries*, consultant anaesthetists were portrayed as a central, and essential, part of modern hospital birth. Early *Reports* were influential in publicising several newly discovered hazards of anaesthesia, and in focusing governmental and medical attention on anaesthetists, rather than obstetricians or midwives, as the main providers of obstetric anaesthesia to British mothers. Later *Reports*, published in the late 1960s and early 1970s, were highly critical of anaesthetic practice in obstetrics. In particular, the criticisms contained in the 1964-66 *Report*, published in the spring of 1969, have been implicated in the foundation of the Obstetric Anaesthetists' Association (OAA).⁷¹⁹ More than this, the *Reports*, and in particular their chapters on maternal deaths associated with anaesthesia, repeatedly emphasised the relative safety of hospital birth over home birth, and the benefits of an obstetric

⁷¹⁶ On the *Reports* and obstetrics, see [Anon.]. (1957) Editorial. Prevention of maternal deaths. *Lancet* II: 375; [Anon.]. (1960b) Mothers who need not have died. Call for better care in childbirth. *Times* 54820 (11 Jul): 6; [Anon.]. (1960c) Annotations. Maternal death. *Lancet* II: 300; [Anon.]. (1969) Annotations. Maternal death. *Lancet* I: 657. For more recent views on the influence of the Confidential Enquiries, see Christie & Tansey (2001). See also MacLean AB, Neilson JP. (eds) (2002) *Maternal morbidity and mortality*. London: RCOG Press; Rhodes (1995), pp131-139. On the *Reports* and anaesthetics, see Ngan Kee WD. (2005) Confidential Enquiries into Maternal Deaths: 50 years of closing the loop. *BJA* 94: 413-416; Cooper GM, Wilkey AD, 'Anaesthesia', in Maclean & Neilson (2002) pp371-380; transcripts of author's interviews with Bryson; Tunstall; Prof Felicity Reynolds, professor of obstetric anaesthesia, St Thomas' Hospital, 4 Nov 2004.

⁷¹⁷ Rhodes (1995), pp140-141.

⁷¹⁸ Mander (1993), p261.

⁷¹⁹ Arthure et al (1969). See also chapter 6.

anaesthesia service run by full-time consultant anaesthetists. Unlike the DCMMM, the Confidential Enquiries took no interest in the provision of obstetric analgesia by midwives. The *Reports* focused almost exclusively on obstetric anaesthesia, and hence on consultant anaesthetists. In doing so, they reinforced the image of obstetric anaesthesia and analgesia as the province of specialist, hospital-based clinicians. They also provided an officially legitimated evidential basis on which obstetric anaesthetists could develop and extend their claims to professional authority.

Demographic analyses of maternal mortality in Britain in the twentieth century provide a crucial context for the work of the Confidential Enquiries.⁷²⁰ As noted in chapters 1 and 2, these analyses tend to treat the statistical data presented in documents such as the *Reports on Confidential Enquiries* as a 'neutral' source with no interpretative dimension. To challenge this assumption is not to question the honesty, integrity or ability of those involved either in the Confidential Enquiries or in historical studies of maternal mortality. Nor is it to deny the impact of the *Reports* on clinical practice and governmental health policy in this period. Rather, this chapter aims to provide, through an examination of the individuals, structures and processes in which these data were assembled and analysed, a new context in which to interpret the work of the Confidential Enquiries and their impact on obstetric anaesthesia.

5.1. Reforming the Confidential Enquiries 1946-1975.

To misquote Deborah Dwork, the Second World War was (in one sense at least) good for mothers.⁷²¹ Even before the official end of hostilities, members of Churchill's cabinet were heralding a large reduction in the maternal mortality rate under the EMS. On 30 June 1945, more than a month before VJ Day, Churchill's Minister of Health, Henry Willink, addressed the annual conference of the NAMCW.⁷²² He reminded his audience that 'some war-time additions to the maternity and child welfare services' were largely responsible for a fall in the maternal

⁷²⁰ See, for example, Loudon (1992); MacFarlane & Mugford (2000), vol 1.

⁷²¹ Dwork (1987). See also Oakley (1984), pp125-128.

⁷²² On Willink, see Burnet JF, 'Willink, Sir Henry Urmston, first baronet (1894-1973)', *ODNB*.

mortality rate, from 2.61 per thousand total births (including abortions) in England and Wales in 1940 to 1.94 in 1944.⁷²³

Willink's speech set the (celebratory) tone for popular press reports on this subject for the next few years. Articles in *The Times*, based on successive annual reports of the CMO, praised the sustained decline in the maternal mortality rate – 1.47 per thousand total births (including abortions) in England and Wales in 1945, 1.24 in 1946, 1.01 in 1947, 1.17 in 1948, 0.82 (excluding abortions) in 1949, 0.72 in 1950, 0.66 in 1951, 0.59 in 1952.⁷²⁴ This striking decline in the national rate, noted in chapter 2, was reflected in greater individual reductions for particular institutions or locations.⁷²⁵ In Scotland, which throughout the nineteenth and twentieth centuries suffered a higher general mortality rate than England and Wales, the maternal mortality rate fell, from more than 3 per thousand total births before the Second World War to 1.3 in 1949.⁷²⁶ London, on the other hand, tended to experience a lower than average rate of maternal mortality. The LCC reported a decline in the maternal mortality rate, from over 2 per thousand total births in the decade before the war to 1.7 in 1944, 1.93 in 1945, 0.77 in 1948, 0.79 in 1949, 0.56 in 1950.⁷²⁷ *The Times* praised the LCC for maintaining, even at the height of the Blitz, a maternal mortality rate comparable to that of New York.⁷²⁸ In an editorial entitled 'Fifty years of medicine', published in January 1950, *The Times* cited the reduction of maternal mortality as one of the most significant achievements of British medicine since 1900.⁷²⁹ And in

⁷²³ [Anon.]. (1945) Maternity welfare. Mr Willink on lower death rates. *The Times* **50182** (30 Jun): 2.

⁷²⁴ Respectively, [Anon.]. (1947h) 1945 the healthiest year known. Decline in cancer. *The Times* **50851** (28 Aug): 6; [Anon.]. (1947i) Home news. Public health. Better physique of children. Maternal mortality's lowest record. *The Times* **50767** (22 May): 3; [Anon.]. (1947j) Planned priorities in child welfare. Mr Bevan's commendation. *The Times* **50797** (26 Jun): 3; [Anon.]. (1948h) Lower maternal death rate. Last year's record. *The Times* **51060** (1 May): 2; [Anon.]. (1949j) Work of Royal College of Obstetricians. Duke of Edinburgh's tribute. *The Times* **51511** (13 Oct): 2; [Anon.]. (1951a) Maternal death rate down. *The Times* **52015** (31 May): 4; [Anon.]. (1952a) Fewer deaths in childbirth. *The Times* **52302** (3 May): 3; [Anon.]. (1953b) Maternal mortality rate down again. *The Times* **52611** (2 May): 3.

⁷²⁵ See also Figure 4, and the discussion of this data in section 2.2.

⁷²⁶ [Anon.]. (1950d) Scottish health records. A rapid improvement. *The Times* **51670** (20 Apr): 3.

⁷²⁷ Respectively, [Anon.]. (1946a) Health of London. More births and fewer deaths. *The Times* **50622** (30 Nov): 2; [Anon.]. (1950e) Fewer births in London. Decline in infantile mortality. *The Times* **51590** (16 Jan): 2; [Anon.]. (1951b) Atmospheric pollution. Battersea Park 'worst in London'. *The Times* **51913** (31 Jan): 3.

⁷²⁸ [Anon.]. (1946b) Health of London in 1944. Comparisons with New York. *The Times* **50345** (9 Jan): 2.

⁷²⁹ [Anon.]. (1950f) Editorial. Fifty years of medicine. *The Times* **51582** (6 Jan): 5.

the spring of 1950 the Maternal Mortality Committee, feeling that its aims had been achieved, closed down.⁷³⁰

While this improvement in maternal death rates was widely lauded, opinion was divided over its causes. The *Lancet* invoked the effective treatment of sepsis by the sulphonamides and penicillin, and the role of the National Blood Transfusion Service (NBTS) in treating post-partum haemorrhage.⁷³¹ In his speech to a meeting held at the RCOG to celebrate ‘Fifty Years of Medicine’, the Duke of Edinburgh looked, perhaps unsurprisingly, to the maintenance of high standards by obstetricians.⁷³² Bevan, on the other hand, praised the more democratic distribution of resources and services under the Labour government and, in particular, under the NHS. MoH educational ‘propaganda’ for mothers and better antenatal care were, he argued, the main sources of the improvement.⁷³³ And ‘Podalirius’, a pseudonymous but ‘respected obstetrician’ quoted in an advert in *The Times* in 1953, linked the decrease in maternal mortality to the availability of ‘Bemax rich natural vitamin-protein-mineral supplements – good at any time but best at breakfast’.⁷³⁴ None mentioned the pre-war work of the DCMMM. But this decade of governmental, medical and public celebration over a reduction in the rate of maternal mortality was also the decade in which central governmental and national medical organisations took their most intense interest yet in reforming the process of investigating maternal deaths.

⁷³⁰ [Anon.]. (1950g) Maternal Health Committee. *The Times* 51650 (27 Mar): 7. The Maternal Mortality Committee was founded in 1930. It was, like the NBTF, a small pressure group composed of the urban elite and aristocracy, predominantly titled, exclusively female. Though it is mentioned in passing in the medical press and in the papers of the Confidential Enquiries, its archives do not appear to have been preserved. By the time of its dissolution, the Maternal Mortality Committee had changed its name to the Maternal Health Committee.

⁷³¹ [Anon.]. (1952b) Editorial. Maternal mortality and morbidity. *Lancet* I: 85. The MoH established a national blood transfusion service under the EMS during the Second World War. See Lawrence in Bynum et al (2006), p388.

⁷³² [Anon.] (1949j), p2; [Anon.] (1950f), p5.

⁷³³ Bevan, quoted in [Anon.] (1947j), p3.

⁷³⁴ ‘Podalirius’. (1953) Advertisements. A safer occupation. *The Times* 52597 (16 Apr): 10.

5.1.1. Proposals for administrative reform 1946-47.

On 30 January 1946 John Charles, then secretary to the CMO, received a note from Taylor in MCW.⁷³⁵ Earlier that week, Taylor had received a report from one of her junior medical officers, one Dr Marsh.⁷³⁶ Marsh, apparently working on her own initiative, and with no formal direction on the subject, had investigated the submission and analysis of maternal death reports.⁷³⁷ Marsh proposed that the existing classification of maternal deaths used in the annual reports of the CMO be broken down into three groups: deaths due directly to childbirth; deaths from other causes, but associated with pregnancy; and deaths following abortion or ectopic gestation. Better central analysis was of little use, however, if the proportion of maternal deaths reported to the MoH was not increased. Though deaths occurring in hospitals were generally well reported, only around 40% of maternal deaths occurring at home were properly and comprehensively investigated.⁷³⁸ Marsh identified four areas in which improvements might be made. The central analysis and presentation of maternal mortality statistics should be clarified. The form for reporting maternal deaths drawn up by the DCMMM in 1928, known officially as Form MCW97, should be revised so that variations in the standard of information provided for each death might be minimised. MOsH should be reminded of their duty to report on all maternal deaths. Finally, she argued that:

Investigations should be made by a consultant obstetrician or a medical officer actively engaged in midwifery and the enquiry should, as far as possible, consist of a personal

⁷³⁵ Taylor to Charles, 30 Jan 1946, TNA MH 134/71.

⁷³⁶ Dr Marsh, 'Maternal mortality investigation. Confidential reports on Form MCW97', Jan 1946, TNA MH 134/71. It is clear from Taylor's letter that Marsh was female but, despite a thorough search of the papers relating to the Confidential Enquiries and various civil service directories, I am unable to provide any more information on her identity.

⁷³⁷ Research in MCW papers from 1945 and 1946 has provided no evidence that Marsh, or any other MCW official, was formally requested to examine the system for maternal death reporting. In the absence of further evidence, it seems reasonable to suppose that Marsh was either working on her own initiative or had been informally briefed on the subject.

⁷³⁸ Marsh, 'Maternal mortality investigation. Confidential reports on Form MCW97', Jan 1946, TNA MH 134/71.

investigation of all the persons connected with the case during pregnancy, parturition and the puerperium.⁷³⁹

These four recommendations, three of which were basically administrative in scope, formed the basis of the post-war reorganisation of the Confidential Enquiries into Maternal Deaths. Taylor thought Marsh's conclusions valid and her recommendations practical, but action in this field was at the discretion of the CMO. Like Taylor, Charles, the CMO, found Marsh's arguments convincing. In his reply to Taylor's note he welcomed Marsh's report, and agreed that her proposed reforms should be carried out.⁷⁴⁰ But they agreed to adopt a policy of 'masterly inactivity' for the moment: there was no point attempting a serious reorganisation of maternal death reporting until they could be more certain of the impact of the NHS on British maternity services.⁷⁴¹

5.1.2. Medical interest in mortality investigations 1946-49.

While MCW waited for the establishment of the NHS, one national medical organisation began to take a more active interest in investigating mortality rates. During the Second World War, the AAGBI had established the journal *Anaesthesia*.⁷⁴² Hewer, its first editor, sought to take the journal beyond the specialist interests of the AAGBI and into the wider field of medical politics occupied, with wider terms of reference, by the *Lancet*.⁷⁴³ His first campaign was on the subject of deaths under anaesthesia. In an editorial in the third issue of the journal, published in the autumn of 1946, Hewer called for a national investigation of deaths associated with anaesthesia.⁷⁴⁴

⁷³⁹ Ibid.

⁷⁴⁰ See Charles to Taylor, 3 Feb 1946, TNA MH 134/71.

⁷⁴¹ Charles, quoted in *ibid*.

⁷⁴² See Boulton (1999), pp100-107.

⁷⁴³ Historical work on the British medical press after the end of the Second World War is scanty. On the editorial policy of the *Lancet*, see Kandela P. (1998) 175 years at 'The Lancet': the editors. *Lancet* 352: 1141-1143. On the history of the *BMJ*, see Bartrip P. (1990) *Mirror of medicine: the BMJ 1840-1990*. Oxford: Clarendon Press.

⁷⁴⁴ Hewer CL. (1946) Editorial. Investigation of deaths associated with administration of anaesthetics. *Anaesthesia* 1: 203.

Perhaps unsurprisingly, Hewer based his proposal around the AAGBI. The council of the AAGBI would draw up a standardised form, based on the MoH's Form MCW97, for reporting individual deaths related to anaesthetics. Copies of this form would be given to 'the senior anaesthetist of each teaching hospital and hospital group'.⁷⁴⁵ When a death occurred, the anaesthetist in charge would discuss the case with his or her 'senior anaesthetist'. Together, they would complete a report on the case, and would submit it, in strict confidence, to the AAGBI. Three central assessors, all senior members of the AAGBI, would analyse the returns, and would publish summaries of their investigation in *Anaesthesia*.⁷⁴⁶ This scheme appears to have been influenced by the MoH's pre-war system for collecting reports on maternal deaths. Numerous parallels are visible: the standardised form, the use of a senior local figure as an authoritative point of reference in preparing reports, the hierarchical structure of peripheral reporting and central analysis, the strict confidentiality to protect both mothers and clinicians, the publication of data summaries as a pointer to future practice. Though Hewer could not compel his readers to complete and return his forms, he trusted that their 'honour and discretion' would lead them to report as many deaths as they reasonably could.⁷⁴⁷

Hewer's system for reporting deaths under anaesthesia came into operation fairly slowly. Though the special forms had been printed and distributed by the end of 1946, a *Lancet* editorial reviewing the current state of 'deaths under anaesthesia' in January 1947 made no mention of the scheme.⁷⁴⁸ The comparatively low rate of deaths under anaesthesia, when compared with the rate of maternal deaths, and the voluntary nature of the scheme meant that completed forms arrived slowly and in small numbers. The AAGBI waited until 1949 to appoint its panel of assessors – the 'committee on deaths associated with anaesthesia'.⁷⁴⁹ Their first summary review, focusing on death by vomiting under anaesthetics, was published in *Anaesthesia* in October 1951.⁷⁵⁰ Further reviews followed in 1952, 1955 and 1956.⁷⁵¹ Once the AAGBI

⁷⁴⁵ Hewer (1946), p203.

⁷⁴⁶ See Boulton (1999), pp164-169; Beinart (1987), pp72-74.

⁷⁴⁷ Hewer (1946), p203.

⁷⁴⁸ [Anon.]. (1947k) Editorial. Deaths under anaesthesia. *Lancet* I: 26-27.

⁷⁴⁹ [Anon.]. (1949k) Editorial. Deaths associated with anaesthesia. New Committee of Investigation. *Anaesthesia* 4: 153.

⁷⁵⁰ Morton HJV, Wylie WD. (1951) Anaesthetic deaths due to regurgitation or vomiting. *Anaesthesia* 4: 190-203.

investigation was under way and its early results published, other medical journals appear to have been generally supportive. An annotation in the *Lancet* in January 1956 noted the difficulty of obtaining detailed information on anaesthetics deaths from the data published in the annual reports of the CMO.⁷⁵²

As early as the summer of 1949, however, one influential English obstetrician had noticed Hewer's scheme, and was citing it as an example of the type of investigation that obstetricians could adopt to improve the standard of their practice. After the end of the Second World War, Holland became involved with NBTF campaigns for improvements in maternal care.⁷⁵³ His appointment as chairman of the organising committee for the twelfth annual congress of obstetrics and gynaecology, held in London in the first week of July 1949, gave Holland an opportunity to ensure that this subject would be brought to the attention of the international obstetric community.⁷⁵⁴

Bevan gave a keynote address on the opening day of the congress.⁷⁵⁵ He linked the unprecedented improvement in maternal mortality to the Labour government's health reforms, and urged those members of his audience who worked in the NHS to do what they could to maintain this improvement. Some delegates appear to have had misgivings over his interpretation of the decline in the maternal death rate. In the session on maternal mortality, held on the final afternoon of the conference, Gilliatt, then president of the RCOG, 'referred to the Minister of Health's remarks on the recent improvement in mortality figures and deplored the Minister's use of these figures for political purposes'.⁷⁵⁶ Gilliatt preferred to attribute the decline in maternal mortality to purely clinical factors, principally the introduction of the sulphonamides and penicillin.⁷⁵⁷ The only way in which this decline could be maintained, he

⁷⁵¹ Respectively, [Anon.]. (1952c) Deaths associated with anaesthesia. Report on 400 cases. *Anaesthesia* 7: 200-205; Pask EA. (1955) Committee on deaths associated with anaesthesia. Review of cases where post-operative care was inadequate to meet the circumstances which arose. *Anaesthesia* 10: 4-8; Edwards G et al. (1956) Deaths associated with anaesthesia. A report on 1,000 cases. *Anaesthesia* 11: 194-220.

⁷⁵² [Anon.]. (1956) Annotations. Deaths during anaesthesia. *Lancet* I: 146.

⁷⁵³ See also section 3.2.

⁷⁵⁴ [Anon.]. (1949) Twelfth annual congress of obstetrics and gynaecology. *Lancet* II: 162-167.

⁷⁵⁵ Bevan, quoted in *ibid.*, p162-3.

⁷⁵⁶ Gilliatt, quoted in *ibid.*, p167.

⁷⁵⁷ On the impact of the sulphonamides and antibiotics on maternal mortality, see Loudon I. (2000) *The tragedy of child-bed fever*. Oxford: Oxford University Press, pp172-188.

argued, was to improve the investigation of maternal deaths. Gilliatt favoured a self-regulated system, in which obstetricians would report deaths under their care directly to the RCOG. Like Holland's suggestion, this system would investigate only maternal deaths that took place in hospital, under the care of obstetricians. As such, Gilliatt's and Holland's proposals appear to have been more concerned with the improvement of individual obstetric practice than with the wider national context of maternal mortality. Gilliatt cited the AAGBI's new system for reporting anaesthetic deaths as an example of how this might be done. He called for greater co-operation between obstetricians and anaesthetists as an important step in the reduction of maternal mortality:

Opportunities to prepare the patient for an anaesthetic are often inadequate, and [I] regard the provision of a specialist anaesthetist who can give his whole time to obstetrical work as a very necessary improvement in maternity work.⁷⁵⁸

Holland, addressing the congress after Gilliatt, echoed his conclusions. Investigations of maternal mortality should, he argued, be kept as far as possible out of the hands of government officials. He described the contribution of the MoH to this subject as 'insignificant' – perhaps an odd sentiment, given his and the RCOG's personal involvement in the DCMMM and the MoH's 1937 maternal mortality investigation.⁷⁵⁹ The AAGBI's scheme was, he claimed, an excellent example of private initiative in this field, though Holland personally favoured the American system of local 'maternal-mortality committees', set up by obstetricians in each county.⁷⁶⁰ He would, he assured his audience, be writing to Bevan, to recommend both the AAGBI's scheme and the American system as models for reform.

⁷⁵⁸ Gilliatt, quoted in [Anon.] (1949I), p167.

⁷⁵⁹ Holland, quoted in *ibid.*, p167.

⁷⁶⁰ In 1954 the American anaesthetists HK Beecher and DP Todd published an analysis of almost 600,000 anaesthetics deaths reported in this way. See Beecher HK, Todd DP. (1954) Study of deaths associated with anesthesia and surgery based on study of 599,548 anesthetics in 10 institutions 1948-52, inclusive. *Annals of Surgery* 140: 2-35.

Holland's letter to Bevan, written less than a week after the end of the congress, began with a vote of thanks on behalf of the RCOG and the delegates for his opening address.⁷⁶¹ But diplomatic niceties quickly gave way to Holland's principal reason for writing. He urged Bevan to use the AAGBI's voluntary scheme, and 'the very successful American example of forming 'maternal mortality committees'', as a model for reforming the British system. One major difference between the existing system of confidential reports and Holland's proposed scheme was that American maternal mortality committees published long and detailed case reports, shorn of the patient's personal details, in a national journal, *Obstetrical and Gynecological Survey*.⁷⁶² Though the publication of individual case records went against the MoH's policy of presenting only statistical summaries of data, Holland argued that the details of individual cases would excite more concern amongst practitioners than mere numerical data.⁷⁶³

Bevan referred Holland's letter to Jameson, his CMO, who passed it on to Taylor in MCW. In her memorandum on the subject, Taylor noted that the CMO's earlier conditions for beginning a review of the Confidential Enquiries had now been met.⁷⁶⁴ Holland had, inadvertently, directed MCW's interest to a subject on which it was now due take action. She felt that, while strict confidentiality in the reporting of maternal deaths was essential to maintain the support of obstetricians, the publication of suitably anonymised case reports would also help to attract medical and public attention to the project. She recommended to Jameson that Holland be appointed as an informal advisor to the reorganisation of the Confidential Enquiries into Maternal Deaths. Jameson disagreed: though Holland's letter to Bevan appear to have re-ignited governmental interest in this subject, Holland himself was not to be given any part in developing the new system.⁷⁶⁵ Six weeks later, in September 1949, Taylor held her first meeting with Walker and Wrigley, and the process of reorganising the Confidential Enquiries began.⁷⁶⁶

⁷⁶¹ Holland to Bevan, 12 Jul 1949, TNA MH 134/71.

⁷⁶² Holland included an example of this type of report with his letter. See [Anon.]. (1948i) Maternal mortality reports. Case number 66. *Obstetrical and Gynecological Survey* 3: 842-843, copy held in TNA MH 134/71.

⁷⁶³ Holland to Bevan, 12 Jul 1949, TNA MH 134/71.

⁷⁶⁴ Taylor to Charles, 27 Jul 1949, TNA MH 134/71.

⁷⁶⁵ Jameson, handwritten reply below text of *ibid*.

⁷⁶⁶ 'Note of a discussion on the Confidential Enquiries', 13 Sept 1949, TNA MH 134/71.

5.1.3. Reforming the Confidential Enquiries 1949-1957.

By the autumn of 1949 Taylor, Charles, Walker and Wrigley had agreed on a model for reforming the investigation of maternal deaths. As the MCW official in charge of these reforms, Taylor's main objective was to create a new and more efficient structure for studying maternal mortality. But without the co-operation of those responsible for collecting and submitting reports on individual maternal deaths – MOsH and senior consultant obstetricians – the planned reforms would fail. She had to gain and maintain the support of these practitioners, and get them to work together with other officials – local registrars, coroners, GPs and midwives – without constant squabbling over professional jurisdictions.

Taylor held her first meeting with Wrigley and Walker on 13 September 1949. Their first action was formally to reject Holland's suggestion of investigation by local maternal mortality committees. Though it was 'most desirable that the enquiries be very largely in the hands of specialists', analysis by local committees of obstetricians 'would impair the confidential nature of the enquiries, which it is essential to preserve'.⁷⁶⁷ Instead, Taylor set out Marsh's proposals for reform, as outlined in her 1946 report.⁷⁶⁸ She, Wrigley and Walker agreed that these provided the best balance of administrative support and clinical independence, and decided to proceed along these lines. MOsH would refer maternal deaths to a local obstetrician, who would investigate and then submit a report for central analysis. One senior obstetrician in each of the fourteen RHB areas, and one for Northern Ireland, would be appointed regional assessor in obstetrics.

But MCW would need to discuss the details of the new system with the Society of Medical Officers of Health (SMOH).⁷⁶⁹ It would also have to revise Form MCW97, and to remind all concerned that the purpose of the investigation was to improve the general standard of practice, not to criticise individual clinicians.⁷⁷⁰ Two days later Walker met Gilliatt, to request the RCOG's formal backing for the reforms, and to discuss the appointment of regional assessors in

⁷⁶⁷ Ibid.

⁷⁶⁸ Marsh, 'Maternal mortality investigation. Confidential reports on Form MCW97', Jan 1946, TNA MH 134/71.

⁷⁶⁹ The archives of the SMOH are held in WTL SA/SMO.

obstetrics.⁷⁷¹ Gilliatt was pleased to endorse the scheme, but felt that the choice of regional assessors required some delicacy in considering seniority and soundness. Could he be permitted some time for private discussions on the subject?

In the meantime, the first jurisdictional concerns began to become apparent. The Society of Coroners (SC) had got wind of the proposed reforms, and had approached Arthure at the RCOG. In March 1950 Arthure approached Taylor, on behalf of the SC.⁷⁷² Under the new system, would coroners still be informed of maternal deaths by the local MOH or registrar of births, marriages and deaths? And how would MCW ensure effective communication between the clinicians involved, the local coroner and the coroner's pathologist? Taylor assured Arthure and Dr Bentley Purchase, the secretary of the SC, that coroners would retain their existing role in the registration and investigation of deaths.⁷⁷³ Walker wrote on their behalf to Lloyd, then president of the RCOG, suggesting that obstetricians be reminded of their right (and duty) to attend all post mortems of mothers who died under their care.⁷⁷⁴

Having reassured the SC, Taylor's next task was to discuss with Lloyd the appointment of regional assessors. Like Gilliatt before her, Lloyd emphasised both experience and character in selecting the right candidate.⁷⁷⁵ She agreed to draw up a shortlist of names, in consultation with the RCOG's governing council and with the obstetricians themselves. This had not been submitted by the time of Taylor's next meeting with Wrigley and Walker in July 1950, and Taylor, Walker and Wrigley decided to draw up their own list of nominees.⁷⁷⁶ All fifteen were senior fellows of the RCOG. Six were members of the RCOG council, and Lloyd herself was put forward as the regional assessor for the Birmingham RHB.⁷⁷⁷ With a few alterations – Lloyd

⁷⁷⁰ 'Note of a discussion on the Confidential Enquiries', 13 Sept 1949, TNA MH 134/71..

⁷⁷¹ Handwritten note by Walker below the text of *ibid*.

⁷⁷² Arthure to Taylor, 7 Mar 1950, TNA MH 134/71. Literature on the British coroner system in the twentieth century is scanty. On the official work of the coroner, see Central Office of Information. (1981) *The work of the coroner: some questions answered. A Home Office guide*. London: Home Office. For an original take on the practices of the inquest, see Burney IA. (1994) Viewing bodies: medicine, public order and English inquest practice. *Configurations* 2: 33-46.

⁷⁷³ 'Obstetric deaths in hospitals and coroners' post mortems', 12 Apr 1950; Taylor to Arthure, 15 Apr 1950, TNA MH 134/71.

⁷⁷⁴ Walker to Prof Hilda Lloyd, RCOG, 28 Mar 1950, TNA MH 134/71.

⁷⁷⁵ Taylor, 'Note of a meeting with Prof Lloyd and Mr Walker', 20 Apr 1950, TNA MH 134/71.

⁷⁷⁶ Taylor, 'Maternal mortality enquiries. Note of a meeting', 27 Jul 1950, TNA MH 134/71.

⁷⁷⁷ See Lloyd, 'List of selected obstetric consultants to be appointed by the MoH for the investigation of maternal deaths', undated (? Jul 1950), TNA MH 134/71.

thought their nomination for Manchester was ‘absolutely out of the question [and] by no means persona grata in certain sections of the city’ – she accepted their suggestions.⁷⁷⁸

By the summer of 1950, the position of obstetricians within the new system had been largely settled. But other major questions remained, particularly relating to the status of MOsH. Berridge has identified the decade after the end of the Second World War as a period in which MOsH were increasingly excluded from local public health and healthcare provision.⁷⁷⁹ This perception of decline appears to have been reflected in the attitude of MOsH towards reform of the Confidential Enquiries. Taylor, Walker, Wrigley and Lloyd agreed that, because of their general lack of specialist obstetric experience, the role of MOsH in preparing reports should be minimised. But their role as supervisors of domiciliary midwifery meant that MOsH could not entirely be excluded from the process. Taylor recommended that the role of MOsH in the new system should be limited to the collection of information on the social situation of the deceased, and that this should be clearly indicated in the new version of Form MCW97.⁷⁸⁰ In July 1950 Godber, then secretary to Charles, the new CMO, wrote to the secretary of the SMOH, to explain the proposed reforms.⁷⁸¹ He played down their impact, stressing the largely administrative scope of the changes. But when he attended an SMOH council meeting in September 1950, their reaction to the new proposals was ‘very strongly adverse’.⁷⁸² For Godber, this response was not merely ‘the automatic reaction of the MOH at present against any process which can be construed as reducing his responsibilities’.⁷⁸³ It also reflected specific tensions between the SMOH and the RCOG, which regarded consultant obstetricians, rather than MOsH, as the most suitable supervisors of local midwifery. SMOH representatives would accept a system in which MOsH and regional assessors collaborated on maternal death reports. Anything less than this might, they intimated, result in the unprecedented step of strike action by MOsH.

⁷⁷⁸ See Taylor to Godber, 18 Jul 1950; ‘Note of interview with Prof Lloyd and Mr Walker’, 30 Jul 1950, TNA MH 134/71.

⁷⁷⁹ On the decline of the MOH after the end of the Second World War, see Berridge (1999), pp44-45.

⁷⁸⁰ Taylor, ‘Note of a meeting with Prof Lloyd and Mr Walker’, 20 Apr 1950, TNA MH 134/71.

⁷⁸¹ Godber to GLC Elliston, secretary, SMOH, 15 Jul 1950, TNA MH 134/71.

⁷⁸² Godber to Taylor, 16 Sept 1950, TNA MH 134/71.

⁷⁸³ Ibid.

Taylor could not, she felt, risk the adverse publicity that such action would generate. She, Wrigley and Walker drew up a compromise proposal, in which the MOH and a local obstetrician would collaborate on an initial report on each maternal death.⁷⁸⁴ This report would then be submitted to the regional assessor, who would add his analysis of the death and collect any further information he felt to be relevant from the MOH, the practitioner involved or the local coroner, before submitting the report for central analysis. Taylor was concerned that this additional step would unnecessarily lengthen the time taken to submit reports, and might lead to tensions between the local obstetrician and the regional assessor. Walker, too, was worried that obstetricians might not be so frank in their confidential reports or assessments if they were to be referred back to the MOH.

But in the face of intractable opposition from the SMOH, no other position was tenable. At a meeting in mid-December 1950, Taylor, Lloyd, Walker and Wrigley agreed on this new proposal.⁷⁸⁵ At an SMOH council meeting in January 1951, this revised scheme was finally accepted.⁷⁸⁶ MCW set a date for the implementation of the new system: 1 January 1952.⁷⁸⁷ Lloyd suggested an honorarium for regional assessors – twenty-five guineas for the assessors for Oxford, Cambridge, Liverpool and North Wales, and fifty guineas for the others.⁷⁸⁸ Taylor, Walker and Wrigley drew up a new version of Form MCW97, incorporating three separate sections to be completed by the MOH, the local obstetrician and the regional assessor.⁷⁸⁹

In January 1952 the revised system of Confidential Enquiries came into action. From their first month of operation, the new system appeared to be working as MCW had intended. Completed forms were slowly but steadily reaching MCW; the new Form MCW97 was being completed correctly, and without any apparent tension between the practitioners involved; and comparison with the registrar-general's returns showed that over 90% of maternal deaths were

⁷⁸⁴ Taylor, 'Note of a meeting with Mr Walker and Mr Wrigley', 4 Dec 1950, TNA MH 134/71.

⁷⁸⁵ Taylor, 'Note of a meeting at the RCOG', 21 Dec 1950, TNA MH 134/71.

⁷⁸⁶ Godber, 'Minute', 23 Jan 1951, TNA MH 134/71.

⁷⁸⁷ Godber to JT Woodlock, MoH, 23 Feb 1951, TNA MH 134/71.

⁷⁸⁸ Godber to Woodlock, 9 Feb 1951, TNA MH 134/71. I have found no evidence, either in the MoH or RCOG archives, to suggest any reason for this discrepancy in remuneration.

⁷⁸⁹ Taylor to Godber, 7 May 1951, TNA MH 134/71. A copy of the revised Form MCW97 are held in TNA MH 55/2791.

being investigated.⁷⁹⁰ Submitted forms were reviewed by Wrigley and Walker in their roles as the MoH's consultant advisors in obstetrics, and then passed to MCW's statistician, Dr WJ Martin, for analysis. In this manner the Confidential Enquiries continued steadily to accumulate data over the next few years.

By 1955, Wrigley and Walker had completed their analysis of all maternal deaths reported between January 1952 and December 1954 – over 1400 in total. At a meeting with Taylor and Charles in January 1956 they decided that the first *Report on Confidential Enquiries* would be based on this data set, and that future investigations would follow this pattern.⁷⁹¹ Three-year intervals between *Reports* would allow the accumulation of enough data to make valid statistical inferences, but would not be so long as to make conclusions drawn from the data redundant. In the spring of 1956 Walker and Wrigley, with the aid of Martin and Dr Katherine Hirst, a junior medical officer in MCW, set about writing the first *Report*.

Early in this process, Walker noted the relatively high proportion of maternal deaths associated with anaesthesia or complications of anaesthesia.⁷⁹² Since 1953 the MoH had employed Marston as a consultant advisor in anaesthesia.⁷⁹³ His main task was to assess applications from regional hospitals for new appointments in anaesthetics. After an informal discussion with Walker and Taylor, Marston was invited to write a chapter on maternal deaths under anaesthesia for the first *Report on Confidential Enquiries*.⁷⁹⁴ He was quick to assert his view of the importance of anaesthesia in the Confidential Enquiries, urging regional assessors to include detailed, comprehensive information about all aspects of any anaesthetics administered in the course of a delivery. This call was echoed by the CMO, who in February 1956 formally reminded regional assessors to make full investigation of all maternal deaths associated with anaesthesia.⁷⁹⁵

⁷⁹⁰ Taylor to K Hirst, MoH, 14 Mar 1952; Taylor, 'Minutes of a meeting with Mr Walker and Mr Wrigley', 22 Apr 1952, TNA MH 134/71.

⁷⁹¹ Taylor, 'Note of a meeting with Mr Walker, Mr Wrigley and Sir John Charles', 14 Jan 1956, TNA MH 55/2373.

⁷⁹² Walker to Taylor, 22 Apr 1956, TNA MH 55/2373.

⁷⁹³ Papers relating to Marston's appointment and work are held in TNA MH 96/1773.

⁷⁹⁴ 'Meeting of regional assessors for maternal mortality at the MoH', 26 Nov 1954, TNA MH 55/2791.

⁷⁹⁵ Charles, circular to regional assessors, 4 Feb 1956, TNA MH 55/2791.

In December 1956 Wrigley and Walker submitted the first draft of the first *Report on Confidential Enquiries* to MCW, and by the end of March 1957 it had been approved for publication.⁷⁹⁶ 1200 advance copies were sent out to all government departments, the House of Commons press office, national medical organisations, all British medical schools and hospitals with maternity beds, the various commonwealth health offices and the WHO. On 1 July 1957 it was released for sale to the public, in a light blue paperback edition, priced 4s.

The format, structure, methods and conclusions of the first *Report on Confidential Enquiries* established the pattern for future *Reports*. Overall responsibility for the investigation remained with MCW, even after the reorganisation of the MoH to form the DHSS in 1968.⁷⁹⁷ With one exception – the appointment of regional anaesthetics assessors in 1973, discussed below, and which was fairly minor in its immediate impact – no major changes were made to the way in which reports of maternal deaths were collected, investigated and submitted for central analysis. But Marston's (and, subsequently, Organe's) involvement in the writing of the *Reports* gave consultant anaesthetists a clear role and a growing professional interest in the investigation of maternal deaths.

5.1.4. The appointment of regional anaesthetics assessors 1969-1975.

In 1959, two years after the publication of the first *Report on Confidential Enquiries*, and as the statistical analysis of data for the second *Report* was nearing completion, Organe replaced Marston as the MoH's consultant advisor in anaesthetics.⁷⁹⁸ Organe wrote chapters on anaesthetics-related maternal deaths for all six *Reports* published between his appointment in 1959 and 1975. He also contributed to the editing process for each *Report*, and to their final recommendations. In addition to this, he attended regular meetings with MoH officials and the

⁷⁹⁶ Deputy secretary, MoH, 'Report', 10 Dec 1956; 'Ministry of Health distribution order', Apr 1957, TNA MH 55/2373.

⁷⁹⁷ In 1968 the MoH merged with the Ministry of Social Security to form the DHSS. Richard Crossman was the first Secretary of State for Health and Social Security. See Webster (1996), pp351-364.

⁷⁹⁸ A search of the MoH archive has failed to locate any direct references to Marston's retirement and Organe's appointment. The earliest reference to Organe as consultant advisor in anaesthetics is in the minutes of a series of meetings in the autumn of 1959, to discuss the publication of the second *Report on*

regional assessors in obstetrics, and supervised a number of small but significant changes in the way that reports of anaesthetics-related maternal deaths were collected and analysed.

It is difficult to identify a single point of origin for these changes. One factor appears to have been the substantial increase in the number of maternal deaths associated with anaesthesia in the 1964-66 triennium. Organe was aware of this increase in the spring of 1967, when the initial statistical abstract of returns was made available.⁷⁹⁹ In the next five years he oversaw both a redrafting of Form MCW97 to include a section on anaesthetics, and the appointment of regional anaesthetics assessors to the Confidential Enquiries. In his chapters written for the fifth and sixth *Reports*, published in 1969 and 1972 respectively, Organe criticised several aspects of clinical practice in obstetric anaesthesia.

But Organe's personal influence is not the whole story. An additional context shaped the role of anaesthetists in the Confidential Enquiries. In 1965, the Home Office had established a departmental committee – the Brodrick Committee – to review the position of British coroners.⁸⁰⁰ Concerns over professional jurisdiction informed the SC's involvement in the establishment of the Confidential Enquiries in the 1950s, and these jurisdictional tensions appear to have been revived by the Brodrick Committee. In the summer of 1967 the Brodrick Committee was examining the registration of deaths in hospitals. Through the Home Office, it asked the MoH to issue a new circular to all HMCs, detailing a new system for reporting deaths under anaesthesia.⁸⁰¹ In future, all reports of deaths under anaesthesia, and any defective anaesthetic equipment involved, would be sent to the MoH's chief pharmacist. He, rather than the local coroner, would initiate and lead an investigation of the death with hospital staff, the manufacturers of the equipment and other interested parties.

Before this circular was issued, a draft was sent to the SC for their comments. They immediately refused to approve the draft, and formally requested the MoH not to issue the

Confidential Enquiries. See, for example, 'Minute of a meeting at the Ministry of Health', Sept 1959, TNA MH 55/2376.

⁷⁹⁹ 'Minutes of a meeting at the Ministry of Health', Mar 1967, MH 156/112.

⁸⁰⁰ Papers relating to the Brodrick Committee are held in TNA RG 48/3241. Its report was published in 1971. See Departmental Committee on Death Certification and Coroners. (1971) *Report of the Departmental Committee on Death Certification and Coroners (Brodrick report)*. London: HMSO. On Purchase, see Jackson R. (1963) *Coroner: the biography of Sir Bentley Purchase*. London: George C Harrap.

circular.⁸⁰² Action on these lines would, they argued, restrict the powers of local coroners as independent judicial officers. This controversy had not been settled when, in the autumn of 1969, MoH officials came to prepare a new version of Form MCW97 for reporting maternal deaths associated with anaesthesia. The outward motive for redrafting Form MCW97 appears to have been administrative: stocks of the original 1952 print run were running low.⁸⁰³ But in a later letter, the CMO maintained that the revision of Form MCW97 at this time was also intended to defuse further tensions between the MoH, the SC and the SMOH.⁸⁰⁴

In November 1969, MCW asked the MoH's regional assessors and consultant advisors in obstetrics for their comments and suggestions on a new draft of the form. They suggested that a new section be added, in which consultant anaesthetists could insert a short report, detailing their involvement with, and views on, the maternal death in question.⁸⁰⁵ Organe's correspondence on this issue suggests that this draft was prepared and sent out without his knowledge. In his view, the section of the form for the anaesthetist's report was 'quite inadequate'.⁸⁰⁶ He enclosed a rough draft of a much larger and more detailed section on anaesthesia, structured around eleven headings across two foolscap pages.⁸⁰⁷ 'Please let me know if you find this too confusing', he added.⁸⁰⁸ MCW incorporated Organe's proposed section into the new draft of Form MCW97.

It was at this point that the role of anaesthetists in the Confidential Enquiries began to shift, subtly but significantly. When, in the winter of 1969, MCW officials discussed with Organe the original proposal for incorporating a section on anaesthetics into the revised Form MCW97, both parties appear to have envisaged the section on anaesthetics being completed by local

⁸⁰¹ A draft of this circular are held in TNA HO 299/39.

⁸⁰² This episode is detailed in John Burton, honorary secretary, SC, to Dr Henry Yellowlees, CMO, 7 Feb 1975, TNA HO 299/39.

⁸⁰³ Dr Margaret M Bates, medical officer, DHSS, to regional assessors in obstetrics and consultant advisors, 11 Nov 1969, TNA MH 156/109.

⁸⁰⁴ Godber to Prof JS Scott, department of obstetrics and gynaecology, University of Leeds, 16 Feb 1971, TNA MH 156/110.

⁸⁰⁵ A draft of the 'aide memoire' and the new Form MCW97 incorporating this section are held in TNA MH 156/109.

⁸⁰⁶ Organe to Bates, 21 Nov 1969, TNA MH 156/109.

⁸⁰⁷ 'Draft of consultant anaesthetist's report', enclosed with Organe to Bates, 21 Nov 1969, TNA MH 156/109.

⁸⁰⁸ Ibid.

consultant anaesthetists involved in particular maternal deaths.⁸⁰⁹ When Dr Henry Yellowlees, then deputy CMO, came to prepare a memorandum on the new arrangements in March 1970, he now had in mind the appointment of official regional anaesthetics assessors.⁸¹⁰ These assessors would investigate every death associated with anaesthetics, and would then complete the section of Form MCW97 on anaesthetics. In his memorandum, Yellowlees emphasised the relatively small number of maternal deaths associated with anaesthesia, and the correspondingly small volume of work they would represent for prospective anaesthetics advisors.⁸¹¹ He also knew that the report of the Brodrick Committee was due to be published within the next year. Given the SC's anxiety over the previous attempt to reorganise the reporting of maternal deaths, he was keen to get the support of coroners before changing the existing system.⁸¹²

The publication of the Brodrick report in 1971, and the further criticism it attracted from the SC, appears to have drawn attention away from the Confidential Enquiries.⁸¹³ By the spring of 1970, however, stocks of Form MCW97 were almost completely exhausted, and several organisations had still to be consulted before any decision on the appointment of anaesthetics advisors could be taken. MCW ordered a limited print run of the original 1952 version of the form from HMSO, to cover the year or so thought necessary to appoint the regional anaesthetics assessors and to approve the new draft of the form.⁸¹⁴ Yellowlees approached the RCOG and the MoH's joint consultative committee (JCC), asking for their views on the idea of appointing regional anaesthetics assessors, and on the new version of Form MCW97.⁸¹⁵

⁸⁰⁹ Bates to regional assessors, 11 Nov 1969; Organe to Bates, 21 Nov 1969, TNA MH 156/109.

⁸¹⁰ Yellowlees, 'Memorandum. Confidential enquiry into maternal deaths', 12 Mar 1970, TNA MH 156/109.

⁸¹¹ Ibid.

⁸¹² Ibid.

⁸¹³ The Brodrick report's major recommendation was the formation of a national coroners' service, managed by the Home Office and appointed by the Lord Chancellor. As part of this, it recommended that a new form be drawn up for reporting all deaths taking place in hospitals, not only those related to anaesthesia. The SC argued that its members should be the first and only source of information on suspicious, sudden or unnatural deaths, and that the proposed reforms would destroy the independence and impartiality of the coroner system. Drafts and a final version of the Brodrick report are held in TNA RG 48/3241.

⁸¹⁴ Bates to Organe, 18 Mar 1970, TNA MH 156/109.

⁸¹⁵ Yellowlees to Dr JD Laycock, DHSS, 10 Apr 1970, TNA MH 156/109. The JCC was a panel of representatives from the three royal colleges (surgeons, physicians and obstetricians). It was established during the negotiations over the establishment of the NHS, to advise the MoH on the views and interests of consultants. See Webster (1986), pp238-256.

Organe, meanwhile, discussed the matter with representatives of the two national organisations concerned with anaesthesia in Britain – the AAGBI and the FARCS.⁸¹⁶ All four organisations welcomed both the proposed appointment of regional anaesthetics assessors and the new draft of the form.⁸¹⁷ But Organe and Yellowlees differed on the most appropriate way to appoint the assessors. Yellowlees, mindful of the small number of reports requiring investigation, believed that two central assessors (perhaps only one, possibly Organe himself) would be sufficient.⁸¹⁸ Organe, on the other hand, called for one anaesthetics assessor per region.⁸¹⁹ Dr Cyril Scurr, then dean of the FARCS, supported Organe's view.⁸²⁰ And Dr John Laycock, a medical officer in MCW, argued that the issue of workload was irrelevant: the key question was the speed with which regional anaesthetics assessors could investigate maternal deaths.⁸²¹

In the autumn of 1970, Laycock proposed a compromise: one regional anaesthetics assessor could be appointed for every two regional assessors in obstetrics.⁸²² This would permit rapid investigation of anaesthetics-related maternal deaths, without a large number of new appointments. But Scurr and Organe believed they had a better idea. The FARCS had recently appointed fifteen senior consultant anaesthetists as regional advisors in postgraduate education.⁸²³ Why not simply extend their duties to cover the work of the Confidential Enquiries? The AAGBI and RCOG supported this proposal, and in the spring of 1971 Scurr passed the names of his regional advisors to the MoH. All accepted their new positions.⁸²⁴

Having settled the question of regional anaesthetics assessors, MCW could address the problem of redrafting Form MCW97.⁸²⁵ Dr Josephine Weatherall, MCW's statistical advisor

⁸¹⁶ Organe to Bates, 26 Mar 1970, TNA MH 156/109.

⁸¹⁷ See, for example, Dr Cyril Scurr, dean, FARCS, to Laycock, 24 Jun 1970, TNA MH 156/122.

⁸¹⁸ Yellowlees to Laycock, 10 Apr 1970, TNA MH 156/109.

⁸¹⁹ Organe, quoted in Laycock to Yellowlees, 23 Oct 1970, TNA MH 156/122.

⁸²⁰ Scurr to Laycock, 24 Jun 1970, TNA MH 156/122. Scurr was dean of the FARCS between 1970 and 1973.

⁸²¹ Laycock to Yellowlees, 14 Apr 1970, TNA MH 156/109.

⁸²² Laycock to Yellowlees, 23 Oct 1970, TNA MH 156/122.

⁸²³ Yellowlees to Scurr, 5 Nov 1970, TNA MH 156/122.

⁸²⁴ See Yellowlees to prospective regional anaesthetics assessors, 6 Aug 1971; Dr Elsie M Lewis, Medical Officer, DHSS, 'Brief for meeting at the Royal College of Surgeons', 12 Nov 1971, TNA MH 156/122.

⁸²⁵ Laycock to Yellowlees, 25 Jan 1972, TNA MH 156/122. Minutes of this meeting were circulated to a number of interested groups, including the CMB, the AAGBI and the OAA, but hurriedly withdrawn,

from the Office of Population Censuses and Surveys (OPCS), found the new anaesthetics section of the form confusing – ‘it is not clear to me at which time the questions relating to anaesthesia apply’ – and advised that they rearrange the section in a more chronological order, but acknowledged that ‘my suggestions demand a rather drastic revision which I’m unwilling to embark on if Sir G. Organe etc. have already approved the form’.⁸²⁶

Weatherall’s concerns were noted, but the form was approved in its existing state, and the regional anaesthetics assessors began their work for the Confidential Enquiries on 1 January 1973.⁸²⁷ This date marked the formal beginning of the eighth triennium (1973-75) of the Confidential Enquiries. The regional anaesthetics assessors were able to follow up a number of unfinished reports from the previous triennium (1970-72). Their analysis of these reports was included in the seventh *Report on Confidential Enquiries*, published in 1975.⁸²⁸

5.2. Anaesthesia, hospital birth and maternal mortality in the *Reports on Confidential Enquiries* 1957-1975.

So far, this chapter has explored the origins and development of the Confidential Enquiries as an administrative structure, and the movement of anaesthetists into this structure from the late 1960s. This section considers the texts in which the data, conclusions and recommendations of the Confidential Enquiries were presented to their audience: the first seven *Reports on Confidential Enquiries*, published between 1957 and 1975. Anaesthesia was one of many subjects raised in these texts, and occupied only one of between eleven and sixteen chapters in each *Report*. From the first to the seventh *Reports*, the tenor and conclusions of each successive chapters on anaesthesia retained a remarkable consistency. Two basic challenges issued in the first *Report* were repeated and expanded: the reduction of deaths from inhalation of regurgitated

after they were found by MoH officials to include ‘some statements which were inaccurate and others likely to cause us embarrassment’. Correspondence on this subject in the archives of the organisations concerned does not, unfortunately, specify which parts of the minutes were in question.

⁸²⁶ Dr Josephine Weatherall, statistical officer, OPCS, to Lewis, 21 Sept 1972, TNA MH 156/122.

⁸²⁷ Lewis to Weatherall, 22 Sept 1972, TNA MH 156/122; Godber to all MOsH, 8 Dec 1972, TNA MH 156/110.

⁸²⁸ Arthure, ‘Preface’, in Arthure et al (1975), piv.

stomach contents, and the provision of 'round-the-clock cover' from a 'senior anaesthetist' in all maternity units.⁸²⁹

These conclusions were not simply 'objective' statistical deductions, made by disinterested observers. They were challenges issued *by* consultant anaesthetists *to* consultant anaesthetists, not to obstetricians, GPs, midwives or any of the large and heterogeneous group of practitioners historically involved in the provision of obstetric anaesthesia and analgesia. These calls to professional and clinical development by anaesthetists were further complicated by being addressed to a distinct subset of clinicians – obstetric anaesthetists – within the developing speciality of anaesthesia. Organe and Marston consistently argued that specialist consultant obstetric anaesthetists should be responsible for all obstetric anaesthesia. In the wider context of the *Reports on Confidential Enquiries*, this claim became incorporated into their major conclusion: that an increasing proportion of births in England and Wales should take place in hospital maternity units.

5.2.1. The first seven *Reports on Confidential Enquiries* 1957-75.

This analysis must, however, be seen in the general context of the texts themselves. All seven *Reports on Confidential Enquiries* shared a common structure. A preface written by the CMO explained the purposes of the Confidential Enquiries, and set out the major conclusions of the *Report*. The first chapter gave a short history of the Confidential Enquiries, tracing their origin to the pre-war work DCMMM, and described the methods used to collect and analyse reports of maternal deaths. Chapters 2, 3, 4 and 5 discussed the four main causes of maternal death throughout the period – respectively, toxæmia of pregnancy, haemorrhage, pulmonary embolism and abortion. Chapter 6 dealt with cardiac disease associated with pregnancy; chapter 7 with deaths associated with caesarean section; and chapter 8 with deaths associated with anaesthesia. From this point, each *Report* followed a different structure, but all seven *Reports* published in this period shared two final chapter headings. The penultimate chapter dealt with antenatal care, and the final chapter related the findings of the current *Report* to the whole

⁸²⁹ Organe, 'Deaths due to complications of anaesthesia', in Arthure et al (1975), p72.

series of Confidential Enquiries, repeating any conclusions and recommendations made in the preceding chapters.

So much for the general form and structure of the *Reports*. What conclusions can be drawn from their content? Table 1 gives a general summary of statistical data presented in each of the seven *Reports*.

Table 1. General summary of data presented in the *Reports on Confidential Enquiries*.⁸³⁰

Some general observations can be drawn from these data. The number of registered maternal deaths fell consistently in each triennium in this period, both in simple numbers and as a proportion of the total number of births. The proportion of registered deaths reported to the Confidential Enquiries rose consistently, from 78% in the first *Report on Confidential Enquiries* to 91% in the seventh. And the number of investigated maternal deaths judged to have avoidable factors – in other words, those deaths for which clinicians were judged to be at least partially responsible – fell in six out of the seven *Reports*.⁸³¹ In their prefaces to the *Reports*, successive CMOs took these observations as indicators of the success of the Confidential

⁸³⁰ These figures are taken from Arthure et al (1975), chaps 1, 16.

⁸³¹ It is worth noting, however, that the proportion of investigated maternal deaths that were judged to have avoidable factors consistently rose, from 43.1% in the first *Report* to 53.8% in the seventh.

Enquiries in reducing the rate of maternal deaths.⁸³² But how did the figures for deaths associated with anaesthesia compare with this otherwise positive claim of aims achieved and surpassed? Table 2 gives a summary of statistical data relating to anaesthesia, presented in each of the seven *Reports*.

Table 2. General summary of data on anaesthetics presented in the *Reports on Confidential Enquiries*.⁸³³

These data are less immediately susceptible to an interpretation of improvement. The decline in maternal deaths associated with anaesthesia did not mirror the greater proportional fall in the total number of maternal deaths investigated by the Confidential Enquiries. This is illustrated by the percentage figures for maternal deaths associated with anaesthesia as a proportion of total investigated maternal deaths. Between the fourth and fifth *Reports on Confidential Enquiries* the percentage of investigated maternal deaths associated with anaesthesia more than doubled. This increase continued in the sixth and seventh *Reports on Confidential Enquiries*. Compared with the figures for the entire investigation, the numbers and proportions of maternal deaths associated with anaesthesia judged to have avoidable factors show no great decrease, and in

⁸³² See, for example, Yellowlees, 'Preface', in Arthure et al (1975), ppiii-iv.

⁸³³ These figures are taken from Arthure et al (1975), chaps 8, 16.

proportional terms may even be said to show a general increase over the seven *Reports on Confidential Enquiries*.

So: although the data for the whole investigation show that over the course of the first seven years the Confidential Enquiries were achieving their wider aim of reducing maternal mortality, this improvement was not reflected in the data for deaths associated with anaesthesia. This tension provides the major internal context for analyses of deaths associated with anaesthesia in the *Reports*. Three sections of the *Reports* will be considered here: the chapters on maternal deaths associated with anaesthesia; the CMO's preface; and the concluding summary chapters.

5.2.2. Chapters on anaesthesia in the *Reports on Confidential Enquiries*.

Though the length of the chapters on deaths associated with anaesthesia increased steadily in the seven *Reports on Confidential Enquiries*, the proportion of each *Report* assigned to a discussion of deaths under anaesthesia remained fairly constant: three pages out of 53 (6%) in the first *Report*, and seven out of 140 (5%) in the seventh. Two authors – Marston and Organe – were responsible for the chapters on anaesthesia in the first seven *Reports*. Marston wrote the chapter in the first *Report*, published in 1957. Organe replaced Marston in 1959, and wrote the chapters in the second to the seventh *Reports*. As with many other aspects of the first *Report*, Marston's chapter on deaths associated with anaesthesia established a precedent for chapters in subsequent reports, not only in terms of the themes he discussed, but also in his relation of these themes to the wider state and status of anaesthetics as a clinical speciality.

Marston began by emphasising the comparative rarity of maternal deaths from anaesthesia – they were 'few in comparison with other causes of death' – but pointed out that the 49 deaths considered in the first *Report* did not represent the full extent of the problem:

In addition there were at least 20 deaths in which there was a probability that anaesthesia was a contributory factor, but in most of these the information was too scanty to warrant

a firm opinion. The possibility should also be borne in mind that anaesthesia may have played a part in some of the deaths from haemorrhage.⁸³⁴

Marston devoted most of his chapter to a discussion of the most frequent cause of death in these cases: the inhalation of regurgitated stomach contents under general anaesthesia, judged to be responsible for 32 of the 49 deaths.⁸³⁵ He suggested several reasons for the high incidence of this condition. One major problem was the general failure of hospital midwives and maternity nurses to monitor and limit food and fluid intake before a birth. This was, he claimed, a fairly straightforward fault that could be easily remedied by increased attentiveness on the part of clinical staff.

But, he argued, the increasing complexity of anaesthetic practice, and the way in which anaesthetics services were provided to maternity wards were a far more serious challenge.⁸³⁶ Obstetric anaesthesia was no longer a matter of pouring chloroform on to a sponge and, as a result, experienced anaesthetists were a necessity rather than a luxury. This difficult and delicate aspect of anaesthetics practice could not be left to those house officers and registrars who, Marston claimed, were often left to cover hospital maternity wards, while their seniors remained in the operating theatre. In advancing a claim for the collective clinical and professional authority of hospital-based consultant anaesthetists, Marston was keen to show that he was not at the same time seeking to challenge the authority of obstetricians, a well-established clinical speciality, but rather seeking to enlist their support in reducing maternal mortality from anaesthesia.

Marston's major concerns in the first *Report on Confidential Enquiries* – the high incidence of death from inhalation of regurgitated stomach contents, and the need for hospital maternity units to employ full-time consultant anaesthetists with specialised obstetric knowledge – were adopted by Organe in his chapters on anaesthesia in subsequent *Reports*. In the second *Report* (1960), Organe noted an 'encouraging' fall in the number of maternal deaths associated with

⁸³⁴ Marston, 'Deaths due to complications of anaesthesia', in Walker et al (1957), p40.

⁸³⁵ Ibid., p40.

⁸³⁶ Ibid., p41.

anaesthesia.⁸³⁷ He again emphasised the frequency of maternal death from inhalation of regurgitated stomach contents – 18 out of 31 deaths associated with anaesthesia – and repeated Marston’s call for greater involvement of experienced anaesthetists in hospital obstetric work.

Organe’s chapters in subsequent *Reports* expanded the analysis of maternal deaths associated with anaesthesia – for example, a geographical analysis by LHA, which showed that maternal deaths associated with anaesthesia were fairly even spread across the country.⁸³⁸ He also included short discussions of individual (anonymised) deaths associated with specific anaesthetic techniques.⁸³⁹ But the general tone of his conclusions did not change significantly between the second and seventh *Reports*. He continued to follow Marston’s example in emphasising the importance of experienced anaesthetists in reducing maternal deaths, using data on the status of those administering anaesthetics to demonstrate that fewest deaths occurred when an experienced consultant anaesthetist was in charge.⁸⁴⁰

The great increase in the numbers of maternal deaths associated with anaesthesia in the fifth and sixth *Reports* (see table 2 above) served, in Organe’s view, to validate his and Marston’s call for a specialised and consultant-run obstetric anaesthesia service in hospital maternity units. He noted the ‘disturbing increase in the rate [of maternal deaths associated with anaesthesia] compared with total maternities’, and repeated with emphasis his claim that anaesthesia in obstetrics should be in the hands of specialist obstetric anaesthetists.⁸⁴¹ He also tried to show that the situation was perhaps not as desperate as the data summaries might suggest. In the sixth *Report* (1972), he argued that the apparent increase in deaths associated with anaesthesia should, like the apparently higher death rates in hospital maternity units, be seen in the context of rising rates of operative delivery and caesarean section.⁸⁴²

But it was in the fifth *Report* that Organe set out the steps in his argument for involving specialist consultant anaesthetists in birth. Hospital birth rates, and operative delivery rates,

⁸³⁷ Organe, ‘Deaths due to complications of anaesthesia’, in Walker et al (1960), p37.

⁸³⁸ On the geographical distribution of maternal deaths associated with anaesthesia, see Organe, ‘Deaths due to complications of anaesthesia’, in Arthure et al (1969), p71.

⁸³⁹ On the hazards of particular anaesthetic techniques, see Organe, ‘Deaths due to complications of anaesthesia’, in Walker et al (1966), p46.

⁸⁴⁰ See, for example, *ibid.*, p47.

⁸⁴¹ Organe, ‘Deaths due to complications of anaesthesia’, in Arthure et al (1969), p75.

⁸⁴² Organe, ‘Deaths due to complications of anaesthesia’, in Arthure et al (1972), p71.

were increasing. Maternal deaths associated with anaesthesia were also increasing, though not proportionately. More than half of these deaths were, in his view, avoidable. And more than half of these avoidable deaths were due to inhalation of regurgitated stomach contents. This logic reinforced the conclusion that he and Marston had drawn repeatedly in their chapters on anaesthesia in the *Reports*. Maternal death rates from anaesthesia could, they argued, be reduced only by taking two measures. First, by reinforcing the importance of anaesthetic techniques, such as endotracheal intubation, that reduced the risk from inhalation of regurgitated stomach contents.⁸⁴³ Second, by ensuring that ‘the knowledge and skill of an experienced anaesthetist must be readily available’ for all hospital births, not merely those requiring anaesthesia for operative delivery.⁸⁴⁴

5.2.3. Anaesthesia in the prefaces and final chapters of the *Reports on Confidential Enquiries*.

Most of the information relating to maternal deaths associated with anaesthesia in each *Report on Confidential Enquiries* was contained in the chapter dedicated to this subject. But the major conclusions of each chapter were repeated in the CMO’s preface, written by Charles in the first *Report*, by Godber in the second to sixth *Reports* and by Yellowlees in the seventh *Report*, and in the final chapter of each *Report*. These sections were intended, in Godber’s words, ‘for the press and the public’, and in this sense they were the ‘public face’ of the Confidential Enquiries.⁸⁴⁵ The press release that accompanied each *Report* was based on the text of the CMO’s preface.⁸⁴⁶ In this way, the contents of this part of each *Report*, determined, to a great extent, the coverage it would receive in the medical and popular press. How does this

⁸⁴³ Endotracheal intubation involved the administration of an inhalational anaesthetic through a stiff plastic tube placed in the patient’s trachea, held in place by an inflatable rubber ring. This ensured that the stomach contents would not enter the lungs, even if the patient vomited. On the development of endotracheal intubation, see Beinart (1987), pp17-18.

⁸⁴⁴ Organe, ‘Deaths due to complications of anaesthesia’, in Arthure et al (1969), p75.

⁸⁴⁵ Godber to Sir Philip Rogers, 9 Mar 1972, TNA MH 156/118.

⁸⁴⁶ See, for example, the draft press releases for the sixth *Report* in TNA MH 156/118, and compare with Godber, ‘Preface’, in Arthure et al (1972), ppiii-v.

‘public face’ of the *Reports* reflect Organe’s and Marston’s conclusions in their chapters on anaesthesia?

Most of each CMO’s preface was devoted to a discussion of the ‘successful’ aspects of each *Report* – typically the sustained fall in total maternal deaths, and the successive decline in their four most common causes. Anaesthesia was mentioned four times in the seven prefaces, receiving between a sentence and a paragraph in each case. In the first preface, Charles noted anaesthesia as ‘a major... primary or associated factor’ in maternal deaths.⁸⁴⁷ Godber made no mention of anaesthesia in the second, third and fourth prefaces. In the fifth preface, he deplored the rise in numbers of maternal deaths associated with anaesthesia, but, following Organe, placed it in the context of the rising rate of operative delivery.⁸⁴⁸ In the seventh preface Yellowlees applauded the fall in maternal deaths associated with anaesthesia, as compared with the two previous *Reports*, and remarked on the appointment of regional anaesthetics assessors to the Confidential Enquiries.⁸⁴⁹ Anaesthesia was, it appears, only mentioned in the CMO’s preface when the pattern of the data had changed substantially from that in the previous *Report*. Marston’s and Organe’s two main conclusions were not mentioned in the CMO’s prefaces to any of the first seven *Reports*.

Only the first *Report on Confidential Enquiries* had a separate short final section titled ‘Summary and conclusions’.⁸⁵⁰ From the second *Report* onwards, this was replaced with a final chapter on ‘Avoidable factors in the whole series’. Specific conclusions drawn by Marston and Organe were repeated in more general terms in the final chapters, and related to conclusions from other sections of the *Reports*. Read straightforwardly, the final chapters of the *Reports* appear to be a fairly clear list of clinical recommendations based on statistical data: the need for women to accept expert clinical advice during birth, the acknowledgement of the ‘special risks’ of anaesthesia in childbirth, a more rapid recognition of the signs of haemorrhage and so on.⁸⁵¹

⁸⁴⁷ Charles, ‘Preface’, in Walker et al (1957), pvii.

⁸⁴⁸ Godber, ‘Preface’, in Arthure et al (1969), piii.

⁸⁴⁹ Yellowlees, ‘Preface’, in Arthure et al (1975), piv.

⁸⁵⁰ Walker et al (1957), pp48-52.

⁸⁵¹ See, for example, ‘Avoidable factors in the whole series’, in Walker et al (1960), pp50-53.

But another reading is possible. Though nowhere in any of the *Reports* is this conclusion plainly stated, all of the recommendations in each *Report*, and particularly those concerned with anaesthesia, pointed towards the hospital maternity ward as the safest place in which to give birth. Fewer avoidable deaths took place in hospitals; transferring a woman in childbirth from home to hospital was far more dangerous than admitting her to hospital in the first place; a growing proportion of births were seen to require specialist clinical attention of the sort only available in hospital; and both the RCOG and the MoH now favoured hospital birth. With regard to anaesthesia, inhalation of regurgitated stomach contents was far more likely to result in the death of the patient if it occurred during anaesthesia outside a hospital, and the sort of experienced consultant anaesthetist care recommended by Marston and Organe was only available in large general or teaching hospitals. In this sense Marston and Organe's conclusions, emphasising as they did the importance of hospital care from experienced consultant obstetric anaesthetists, fitted well with the wider agenda of the Confidential Enquiries themselves.

5.2.4. Mendelson syndrome, anaesthetics practice and the *Reports on Confidential Enquiries*.

Having explored the history of the Confidential Enquiries, and the structure and content of the *Reports on Confidential Enquiries* in relation to obstetric anaesthesia, the main question remaining is that of their impact and influence. As the introduction to this chapter noted, many authors on this subject have identified the *Reports* as a major influence on the practice of anaesthetists in England and Wales in this period. Though they agree on the bare fact of this influence, there is much disagreement over its nature and consequences.⁸⁵² One example of this influence is seen to be the dissemination of knowledge and techniques relating to maternal deaths from inhalation of regurgitated stomach contents, known as Mendelson syndrome.⁸⁵³

⁸⁵² See Rhodes (1995); Mander (1993).

⁸⁵³ On Mendelson syndrome in the Confidential Enquiries, see Ngan Kee (2005), p413; MacLennan FM. (1986) Hypothesis. Maternal mortality from Mendelson syndrome: an explanation? *Lancet* I: 587-589. For a practitioner-historian's perspective on Mendelson syndrome, see Buxton Hopkin DA, 'Open drop ether versus relaxant techniques in obstetrics', in Ruprecht (1985), pp95-98. See also transcripts of author's interviews with Reynolds; Bryson; Tunstall.

This section uses Mendelson syndrome as a case study with which to explore the influence of the *Reports on Confidential Enquiries* on the practice of obstetric anaesthesia and analgesia and the emerging professional identity of obstetric anaesthetists.

In 1946 CL Mendelson, an American anaesthetist, published a paper in the *American Journal of Obstetrics and Gynecology* describing the inhalation of regurgitated stomach contents during induction of general anaesthesia.⁸⁵⁴ He argued that this could lead to death in one of two ways. Sufferers might asphyxiate immediately, because their airway was physically obstructed, or they might develop severe pulmonary oedema from damage to lung tissue caused by acidic stomach contents. Mendelson identified this second mechanism as a specific risk of obstetric anaesthesia, because of pressure on the stomach from the gravid uterus. In his chapter in the third *Report on Confidential Enquiries* (1963), Organe provided a vivid description of its insidious nature of the syndrome:

[Mendelson syndrome] results from the inhalation, often of quite small quantities, of regurgitated stomach contents and the incident may pass unnoticed by the unobservant. It is not known how many women inhale vomit during labour without serious harm ensuing; they may well be the majority. There follows a period, perhaps of a few hours, when the patient may have recovered consciousness and appear well before the sudden onset of severe pulmonary oedema and peripheral circulatory failure. Death follows within a few minutes or up to an hour or two afterwards.⁸⁵⁵

Discussions of Mendelson syndrome first appeared in mainstream British clinical literature in the early 1950s. In a series of reports, based on its voluntary survey of anaesthetic deaths, *Anaesthesia* listed Mendelson syndrome as one of several risks associated with the inhalation of regurgitated stomach contents.⁸⁵⁶ The *Lancet*, too, warned its readers of this problem, and

⁸⁵⁴ Mendelson CL. (1946) The aspiration of stomach contents into the lungs during obstetric anaesthesia. *American Journal of Obstetrics and Gynecology* 52: 191-204.

⁸⁵⁵ Organe, 'Deaths due to complications of anaesthesia', in Walker et al (1963), p34.

⁸⁵⁶ Morton HJV, Wylie WD. (1951) Anaesthetic deaths due to regurgitation or vomiting. *Anaesthesia* 4: 190-203; [Anon.]. (1952) Deaths associated with anaesthesia. Report on 400 cases. *Anaesthesia* 7: 200-205.

advised all maternity wards to install piped suction devices, so that inhaled stomach contents could rapidly be removed.⁸⁵⁷

In the first, second and third *Reports*, the question of whether a maternal death from the inhalation of regurgitated stomach contents had been avoidable or not rested largely on an analysis of care in the immediate prenatal period, the amount of food and drink consumed by the mother, and other factors which Marston had criticised as too vague for rigorous analysis.⁸⁵⁸ In Organe's view, the rapid adoption of endotracheal intubation as the standard technique for administering general anaesthetics provided a concrete basis for judging avoidability in these cases. Organe first mentioned Mendelson syndrome in the third *Report on Confidential Enquiries* (1963), and endotracheal intubation in the fourth *Report* (1966). From the fourth *Report* (1966) onwards, he used endotracheal intubation as the PAF in assessing the avoidability of maternal deaths from the inhalation of regurgitated stomach contents.

This example illustrates the way in which Organe's analysis of what constituted a PAF in a maternal death shifted as new anaesthetic techniques were introduced. For several years before this, however, the *Reports on Confidential Enquiries* had been attracting comment from anaesthetists for their recommendations on the inhalation of regurgitated stomach contents. Throughout 1958 a series of letters in the *BMJ* discussed the conclusions of the *Reports*. Dinnick praised the first *Report* for its guidance on this subject.⁸⁵⁹ He also described several cases of Mendelson syndrome in a 1964 article in *Anaesthesia*, emphasizing the role of the *Reports on Confidential Enquiries* in bringing this condition to the attention of anaesthetists.⁸⁶⁰ Two years later Dr Gordon Taylor, a consultant anaesthetist at Queen Charlotte's Maternity Hospital and a founder member of the OAA, published an article in the *Lancet*, advocating oral administration of antacids before anaesthetic induction as a means of preventing Mendelson syndrome.⁸⁶¹ Again, Taylor cited the *Reports* as a major motivation for his research. In March

⁸⁵⁷ [Anon.]. (1955) Annotations. A common cause of death under anaesthesia. *Lancet* II: 862.

⁸⁵⁸ On the difficulties of this analysis, see Marston, 'Deaths due to complications of anaesthesia', in Walker et al (1957), pp40-41.

⁸⁵⁹ Dinnick OP. (1958) Letters. Maternal anaesthetic deaths. *BMJ* I (Apr 5): 830.

⁸⁶⁰ Dinnick OP. (1964) Deaths associated with anaesthesia. Observations on 600 cases. *Anaesthesia* 19: 536-556.

⁸⁶¹ Taylor G, Pryse-Davies J. (1966) The prophylactic use of antacids in the prevention of the acid-pulmonary-aspiration syndrome (Mendelson's syndrome). *Lancet* II: 288-291.

1967, the CMB amended its syllabus for pupil midwives to include the prevention and treatment of Mendelson syndrome.⁸⁶²

In 1971 Taylor published a major review of British obstetric anaesthesia services in the *BMJ*.⁸⁶³ He took the work of the Confidential Enquiries as his starting point, and used data from a postal survey of consultant anaesthetists working in British hospitals with maternity units to support Marston's and Organe's conclusions in the *Reports on Confidential Enquiries*. Mendelson syndrome remained a major cause of death, and most maternity units still lacked specialist anaesthetics cover. And in a letter to the *Lancet* in the autumn of 1972, Crawford used data from the sixth *Report* to criticise the backwardness of the MoH and the CMO in improving the provision and standard of obstetric anaesthesia.⁸⁶⁴ He claimed that the persistently high proportion of avoidable deaths due to Mendelson syndrome reflected the lack of clinical and professional improvement in anaesthesia since the publication of the first *Report*.⁸⁶⁵

The articles and letters cited in this section suggest that, at the very least, the chapters on maternal deaths related to anaesthesia in the first seven *Reports* were stimulating thought, debate and active research amongst a small number of British anaesthetists. This textual approach does not, of course, indicate the breadth or depth of the *Reports*' influence. It can provide little insight into the 'everyday' use of the *Reports* by individual anaesthetists, and little evidence of their impact on individual practice. But it does suggest that some anaesthetists in England and Wales adopted the *Reports* as an evidential and rhetorical basis for action, whether in terms of altering their clinical practice or increasing the provision of specialist cover to hospital maternity units.

5.3. Conclusion.

There is more, much more, that could be said about the Confidential Enquiries and the *Reports on Confidential Enquiries*. Their primary concern lay, after all, in obstetrics and

⁸⁶² CMB minutes, 2 Mar 1967, in CMB minute book 1961-1973, TNA DV 1/20.

⁸⁶³ Taylor G. (1971) Obstetric anaesthesia services in the United Kingdom. *BMJ* I: 101-103.

⁸⁶⁴ Crawford JS. (1972) Letters to the editor. Maternal mortality associated with anaesthesia. *Lancet* II: 918-919.

midwifery rather than anaesthetics. Historians of the British maternity services will surely find many fruitful new perspectives in this source. But it is with their anaesthetics-related aspects that this chapter has been concerned.

The analysis presented in this chapter suggests that the Confidential Enquiries were not simply an impersonal process, in which disinterested observers generated neutral statistical data. The individuals and organisations concerned were self-consciously involved in the preparation of reports which they knew would inform political, administrative, public and medical discussions in their own field: the maternity services. The Confidential Enquiries were, in their first incarnation as part of the DCMMM's investigation, a governmental response to general concern over the high mortality rate amongst mothers in England and Wales. But, as chapter 2 showed, they were also an expression of the BCOG / RCOG's policy of hospitalising a high proportion of British births.

This emphasis was reflected in the reorganisation of the Confidential Enquiries in the 1950s. The *Reports on Confidential Enquiries*, even on the occasions when they were most critical of clinical practice, always stressed the safety of hospital birth and consultant-based care. None of the first seven *Reports* made any mention of analgesia provided by midwives. In focusing on the practice of consultant anaesthetists and obstetricians, the *Reports* provided influential support both for the provision of hospital-based care by consultant obstetricians and anaesthetists, and for the official policy of increasing the proportion of births taking place in hospitals.

For clinicians involved in the Confidential Enquiries, their authorship was complicated by their dual status. As 'experts' they had to construct a rhetorical framework in which statistical information could be seen to speak 'objectively' for itself, and to draw authoritative, definitive conclusions from these data. But as senior figures in clinical organisations, they had particular professional positions and policies to maintain and promote, not only in the clinical interests of mothers but also in the professional interests of their colleagues – the overwhelming majority of whom were based in NHS hospitals.

And this was not a position imposed upon anaesthetists from outside their profession. The authors of the chapters on anaesthesia in the first seven *Reports on Confidential Enquiries* were

⁸⁶⁵ Ibid., p918.

themselves senior consultant anaesthetists. Marston's and Organe's work provided both an evidential and a rhetorical basis for the development of a specialised body of hospital-based consultant anaesthetists with experience and interest in the field of obstetric anaesthesia and analgesia. In this sense, their work represented a call to further specialisation within the established speciality of anaesthesia.

But as the next chapter will demonstrate, there were significant differences between the ways in which the authors of the *Reports* sought to influence the practice of obstetric anaesthetists, and the ways in which these anaesthetists reinterpreted and redeployed data from the *Reports*. Though the *Reports on Confidential Enquiries* never explicitly recommended the use of new regional techniques of anaesthesia and analgesia (such as epidural analgesia) as a way of reducing maternal mortality rates, these techniques became a central part of obstetric anaesthesia and analgesia in the early 1970s, and were closely associated with the newly-founded OAA. In this period epidural analgesia became a central theme in debates over the control of obstetric anaesthesia and analgesia. This complex interfusion of influence, and its effect on power relations within hospital maternity care, provided one context for the emergence of a professional identity for hospital-based obstetric anaesthetists in the 1960s and 1970s. Chapter 6 explores one expression of this new identity – the foundation of the OAA in 1969.

Chapter 6. ‘A symposium of working people’: the foundation and early history of the Obstetric Anaesthetists’ Association (OAA)

1969-1975.⁸⁶⁶

On the morning of 24 March 1969, 42 people crowded into the midwifery lecture room in the Liverpool Maternity Hospital to attend the first meeting of the OAA. 37 of those present were consultant anaesthetists, two were professors of anaesthesia and one was an anaesthetics registrar. Four were women. Over half of the group had qualified at an English medical school, and more than a quarter had attended a London school. Nearly all had qualified before 1959. 38 held the FFARCS, and for 12 of them this was their only postgraduate qualification. 32 worked in English hospitals. One had been educated and was then working outside the United Kingdom, in Dublin.⁸⁶⁷

Though it was neither the first specialist anaesthetics society in the UK, nor the first national organisation for anaesthetists involved in obstetric anaesthesia and analgesia, the OAA quickly became, and has remained, the largest such society in the UK.⁸⁶⁸ The early history of the OAA reflects both the particular professional aspirations of its founders – a small group of consultant anaesthetists, many of whom had developed and expressed an interest in obstetric anaesthesia though involvement with the investigations discussed in previous chapters – and the general interests and characteristics of its early membership. The analysis presented in this chapter draws together the three narratives identified in chapter 1, and examines their impact on the provision of obstetric anaesthesia and analgesia in England and Wales at the end of this period of study.

⁸⁶⁶ Quoted from Crawford, ‘Foreword’, in Doughty A. (ed) (1972) *Epidural analgesia in obstetrics: proceedings of a symposium held under the auspices of the Obstetric Anaesthetists’ Association at Kingston Hospital, Kingston-upon-Thames, 18 March 1971*. London: HK Lewis, p3.

⁸⁶⁷ The information in this paragraph is taken from a prosopographical analysis of the OAA’s early membership, discussed in section 6.2.

⁸⁶⁸ The first national group for obstetric anaesthetists was the Society of Obstetric Anaesthesiologists and Perinatologists (SOAP), founded in the US in 1968.

In its first six years of existence the OAA paid particular attention to one technique: epidural analgesia. Mander argues that the designation of obstetric anaesthetists as a professional group is inherently problematic, because of 'their proximity in terms of both practice and training to their obstetric and medical colleagues'.⁸⁶⁹ In this sense, she claimed, 'the increasing acceptance of epidural analgesia took place at an opportune time for anaesthetists, enabling them to gain, initially, acceptance of their practice and, later, professional credibility'.⁸⁷⁰ The technique became both a symbol of the new sub-speciality, closely associated with hospital practice, and a practical example of specialised knowledge with which obstetric anaesthetists could assert their intellectual and clinical independence. But as this chapter will show, their assertion of control over this new technique was far from unproblematic. As with the techniques discussed in chapter 4, the case of epidural analgesia appears to be a very suitable subject for a SCoT analysis. Though this approach is not pursued here, this possibility will be explored in future work.

The first section of this chapter uses a survey of material held in the OAA archive to map the foundation and early history of the OAA from an internal perspective. The second section uses a comparative prosopography of the OAA and the Neurosurgical Anaesthetists' Travelling Club (NATC), an organisation founded in the same period and addressing a similar constituency of practitioners in England and Wales, to examine the scope, development and self-perception of these two organisations. The third section uses an account of the RCOG ad hoc committee on the relief of pain in labour to trace the activities of the early OAA, in the wider contexts of debates over obstetrics, anaesthetics, midwifery, and the hospitalisation of birth. The conclusion develops the idea, noted in chapter 1, that the foundation of the OAA represented the emergence of a new collective professional identity for obstetric anaesthetists.

⁸⁶⁹ Mander (1993), p260.

⁸⁷⁰ Ibid., p260.

6.1. An archival approach to the early history of the OAA.

Reflecting on the experience of attending the OAA's first symposium, held at Kingston Hospital on 18 March 1971 and published as a volume of papers in 1972, Crawford wrote that:

Well-known figures from the national and international circuits were not flown in to present their tablets from on high and then depart. This was a symposium of working people describing their own experiences made in the context of clinical experiences.⁸⁷¹

This view of the OAA as, in the words of one of its founders, 'a forum for discussion and ideas' characterised the OAA's outlook and self-perception throughout its early history.⁸⁷² This section uses an analysis of material held in the OAA archive to examine the origins and development of this identity, and the ways in which it was reflected in the structure of the OAA and the activities of its most involved members. Though the OAA archive contains a large quantity of material relating to later meetings, papers relating to its foundation and the first meeting are scanty.⁸⁷³ The only existing account of the OAA's foundation is that given by Dr Thomas Bryson, one of the founder members of the OAA, in a speech to the 1999 OAA meeting in Liverpool.⁸⁷⁴ In the mid-1960s Bryson worked as a consultant anaesthetist in the United Liverpool Hospitals. In 1968 he met Dr Michael Lewis, a consultant anaesthetist working at the Royal Maternity Hospital in Belfast. Between them, Bryson and Lewis organised the first meeting of the OAA in March 1969.

In his speech Bryson portrayed his and Lewis's action as a practical response to the sense of isolation they perceived amongst anaesthetists working in obstetrics at the time.⁸⁷⁵ An informal

⁸⁷¹ Crawford, 'Foreword', in Doughty (1972), pp3-4.

⁸⁷² Dr Thomas Bryson, unpublished typescript of a speech delivered to the 1999 OAA meeting, copy in author's possession.

⁸⁷³ The OAA's extant papers were scanned on to CD-ROM in the late 1980s, before being put into storage. This CD-ROM, currently held by Trisha Hawkins, the OAA's secretary and archivist, holds copies of OAA meeting, committee meeting and business meeting minutes, early membership lists and some correspondence from Oct 1969 onwards. These papers are not formally catalogued. I am grateful to Mrs Hawkins for providing copies of the relevant documents from this CD-ROM.

⁸⁷⁴ Bryson, unpublished typescript, copy in author's possession.

⁸⁷⁵ Ibid.

group for such anaesthetists would, they agreed, provide an opportunity not only for clinical discussions, but also for the formation of social links similar to those they saw developing between the obstetric staff of different hospital maternity units. Professor John Dundee, Lewis's head of department at Belfast, encouraged Bryson and Lewis to develop their idea.⁸⁷⁶ Before moving to Belfast, Dundee had been senior lecturer in anaesthetics at Liverpool, and his 'forceful personality' meant that, for Bryson at least, 'his encouragement was less of a request and more of an instruction'.⁸⁷⁷

Following this 'encouragement', Bryson and Lewis were faced with the problem of finding and contacting anaesthetists with an interest in obstetrics. Apart from the anaesthetists involved in the CNOOA – Crawford, Tunstall, Doughty – few names immediately stood out. Lewis wrote to every HMC in Britain, asking if they would canvass the opinion of their anaesthetics departments on this subject. Bryson, meanwhile, placed an advert in the *BJA*, inviting any anaesthetist working in obstetric anaesthesia to contact him or Lewis.⁸⁷⁸ After 'a bit of arm-twisting', he persuaded Crawford and Dr Donald Moir, a consultant anaesthetist in the Queen Mother Maternity Hospital, Glasgow, to present papers at the first meeting.⁸⁷⁹ He also wrote to those anaesthetists that had replied to Lewis's enquiry, inviting them to a day-long meeting in Liverpool on 24 March 1969.⁸⁸⁰

After Crawford and Moir's papers, and 'the worst lunch the OAA has ever eaten' in the hospital canteen, Bryson and Lewis invited the assembled clinicians to discuss the question of 'where do we go from here?'.⁸⁸¹ Once again, no contemporary minutes of this discussion survive. Bryson recalled that that most of those concerned had found the first meeting worthwhile.⁸⁸² They agreed to continue the meetings in the manner of a 'travelling club': every

⁸⁷⁶ On Dundee, see Boulton (1999) p597.

⁸⁷⁷ Bryson, unpublished typescript, copy in author's possession.

⁸⁷⁸ The advert appeared on p194 of the Feb 1969 issue of the *BJA*.

⁸⁷⁹ Bryson, unpublished typescript, copy in author's possession. Moir had also been involved in the clinical trials of the Lucy Baldwin machine. Papers relating to Moir's work are held in TNA MH 134/147.

⁸⁸⁰ Bryson to prospective OAA members, 11 Mar 1969, OAA archive.

⁸⁸¹ Bryson, unpublished typescript, copy in author's possession.

⁸⁸² *Ibid.*

six months or so the group would meet in a different anaesthetics department. More than fifty people attended the next meeting, organised by Crawford and held in Birmingham.⁸⁸³

By the time of the fourth meeting, held at Glasgow in October 1970 and attended by almost sixty people, the founder members of the group felt that it should be put on a more formal basis. At a meeting held the evening after the main meeting, Bryson, Lewis, Crawford, Doughty, Tunstall, Moir and Dr Michael Rosen, a consultant anaesthetist working under Mushin at the Welsh National School of Medicine, formed a provisional committee to discuss the format of the new organisation.⁸⁸⁴ Though Bryson felt that ‘an Association was rather grand for such a small group’, the provisional committee decided to call it the ‘Obstetric Anaesthetists’ Association’.⁸⁸⁵

Membership of the OAA would, they agreed, be open to ‘any medical practitioner interested in the aims of the Association’, and would for the time being be informal, determined by regular attendance at meetings and prompt payment of the registration fee, initially set at five shillings per meeting.⁸⁸⁶ A committee of seven officers would manage the business of the OAA, and the seven members of the provisional committee nominated themselves en bloc.⁸⁸⁷ Throughout the early 1970s the OAA continued to grow, both in terms of its finances and its membership. In September 1971 its total funds stood at £35. By September 1975, following the introduction of a £1 annual membership fee in 1973, this figure had reached £650, with a total membership of over 300.⁸⁸⁸

The members of the OAA committee built on Bryson and Lewis’s original conception of an informal discussion group for anaesthetists interested in obstetrics, adding a political dimension

⁸⁸³ ‘Minutes of second meeting’, 1 Oct 1969, OAA archive. The OAA maintained this pattern of two meetings per year, one in the spring and another in the autumn, throughout the 1970s.

⁸⁸⁴ ‘Minutes of the first business meeting’, 8 Oct 1970, OAA archive. Rosen had previously worked on the development of the volatile agent Penthrane (methoxyflurane) as an analgesic for use by unsupervised midwives. Papers relating to Rosen’s research are held in TNA DV 11/258. See also footnote 352, pp110-111.

⁸⁸⁵ Bryson, unpublished typescript, copy in author’s possession. Bryson recalled that he also warned the Committee that the acronym – OAA – ‘was similar to OSS which was at that time the American equivalent of MI5’.

⁸⁸⁶ ‘Minutes of the first business meeting’, 8 Oct 1970, OAA archive.

⁸⁸⁷ In practice, each was informally co-opted on to the Committee after their retirement. Tunstall, for example, retired in the spring of 1973, but was immediately co-opted. See ‘Committee meeting minutes’, 3 Oct 1973, OAA archive.

⁸⁸⁸ ‘Treasurer’s report’, Sept 1971, Sept 1975, OAA archive.

to the OAA's outlook in the first few years of its existence. Bryson recalled that, in his initial discussions with Lewis and Dundee in 1968, they had identified three major challenges facing anaesthetists working in obstetrics. First, the basic problem of getting anaesthetists appointed to hospital maternity units.⁸⁸⁹ Second, the fact that, in his view, analgesia was not regarded as part of the anaesthetist's remit. Anaesthetists would be called in to provide anaesthesia for caesarean sections and other surgical procedures, but obstetric analgesia was seen as the province of the obstetrician and midwife. Third, the high number of avoidable anaesthetics-related maternal deaths identified in the *Reports on Confidential Enquiries*.⁸⁹⁰

These three problems formed the basis of the OAA's first policy statement: its constitution, written at the OAA committee's 1970 'business meeting'.⁸⁹¹ At this meeting, Crawford argued that the new organisation should be a platform for collective action by anaesthetists, and proposed that the committee should draw up a policy on anaesthetics staffing in hospital obstetric units. The committee decided to include the staffing policy in a general OAA constitution, which would set out the structure, aims and policies of the OAA. In a preamble to this document they framed the foundation of the OAA as a humanitarian response to wider technical and clinical developments in anaesthesia, and expressed their intention to widen the scope of the anaesthetist's involvement in hospital maternity care.⁸⁹²

In the OAA constitution, this statement of intent was developed into a concrete staffing policy. All maternity units in teaching hospitals and postgraduate training centres should have 24-hour cover from a consultant anaesthetist; all other hospital maternity units should have part-time cover; and all hospital maternity units with more than 2000 deliveries per year should have a dedicated on-call anaesthetics service. But in order for this staffing policy to be taken seriously by the DHSS and FARCS, it would have to be supported by convincing evidence. At the second meeting of the OAA in October 1969, Dr Gordon Taylor had discussed the

⁸⁸⁹ Bryson, unpublished typescript, copy in author's possession.

⁸⁹⁰ None of the regional anaesthetics assessors appointed to the Confidential Enquiries in 1970-71 were members of the OAA in its first six years of existence. See the list of regional anaesthetics assessors included in Yellowlees to Beard, 25 Mar 1970, TNA MH 156/122.

⁸⁹¹ 'Minutes of the first business meeting', 8 Oct 1970, OAA archive.

⁸⁹² Ibid.

preliminary results of his survey of obstetric anaesthesia services.⁸⁹³ The OAA committee adopted Taylor's survey, along with the *Reports on Confidential Enquiries*, as the evidential basis for its new policy, and throughout the early 1970s encouraged OAA members to carry out studies of the staffing situation in their own anaesthetics or maternity units.⁸⁹⁴

The committee also acknowledged that a crucial step in obtaining official support for its policies and recommendations was gaining formal recognition from other, larger, clinical organisations – in other words, to be taken seriously as a representative body of clinical opinion. Bryson recalled that the introduction of the membership fee was one strategy in improving the OAA's status in this regard: it enabled the OAA to 'quote how many paid up members we had – a bit like a trade union card vote'.⁸⁹⁵ Early OAA committee meeting minutes reveal its members' interest in disseminating the OAA's activities to the wider anaesthetics community, with several attempts made to get first the *BJA* and then *Anaesthesia* to publish short accounts of its meetings.⁸⁹⁶ From 1972, the OAA committee sought to establish contacts with international societies. An arrangement with the Society of Obstetric Anesthesiologists and Perinatologists (SOAP), based in the US, allowed for the mutual exchange of publications and proceedings.⁸⁹⁷ In 1973-74 the minutes record the lobbying of the AAGBI and the World Federation of Societies of Anaesthesiologists (WFSA) to get OAA members on the WFSA's committee on obstetric anaesthesia, and to establish an obstetrics section in the European Anaesthesiological Association (EAA).⁸⁹⁸

In the preamble to its constitution, the OAA committee had cited technical developments in anaesthesia as one justification for the OAA's aims and staffing policy. Many of the OAA's early internal debates over the clinical practice of anaesthesia and analgesia, as opposed to more general debates over hospital staffing and the 'place' of anaesthetists in obstetrics, focused on a

⁸⁹³ 'Minutes of the second meeting', 1 Oct 1969, OAA archive. Taylor published his survey in the *BMJ* in 1971. See Taylor (1971).

⁸⁹⁴ See, for example, 'OAA committee meeting minutes', 18 Sept 1971, 7 Jan 1972, 5 Oct 1972, OAA archive.

⁸⁹⁵ Bryson, unpublished typescript, copy in author's possession.

⁸⁹⁶ See, for example, 'Minutes of the first business meeting', 8 Oct 1970, OAA archive.

⁸⁹⁷ 'OAA committee meeting minutes', 5 Oct 1972, OAA archive.

⁸⁹⁸ 'OAA committee meeting minutes', 3 Oct 1973, OAA archive. In March 1974 Crawford was nominated as the British representative on the WFSA committee on obstetric anaesthesia. See 'OAA committee meeting minutes', 21 Mar 1974, OAA archive.

single technique – epidural analgesia.⁸⁹⁹ Evidence from published papers and oral history interviews suggests that, from the late 1960s, Doughty, Tunstall, Bryson, Crawford and Lewis were all interested in the use of epidural analgesia in childbirth, and were attempting to establish what Tunstall called an ‘epidural service’ in the hospital maternity units in which they worked.⁹⁰⁰

Though the OAA’s constitution supported the idea of anaesthetists providing a comprehensive service to hospital maternity units, members of the OAA committee were not united in the view that this service should be based around one technique. In his 1999 speech, Bryson identified ‘a sharp division between the pro-epidural and the anti-epidural factions’ in the early OAA, with Rosen and Crawford prominent amongst the ‘anti-epidural faction’.⁹⁰¹ In Rosen’s recollection, he and Crawford initially felt that OAA members should aim to provide a general ‘obstetric pain relief service’ in hospital maternity units, involving co-operation between mothers, midwives and obstetricians, rather than an ‘epidural service’ provided by anaesthetists alone.⁹⁰² But Bryson recalled that both Rosen and Crawford were ‘later convert[ed] to the

⁸⁹⁹ ‘Continuous caudal analgesia’ was developed during the Second World War by the American anaesthetist Robert Hingson, who introduced the technique to British anaesthetists in a series of publications, visits and lectures in the late 1940s. See Hingson RA. (1949) Continuous caudal analgesia in obstetrics, surgery and therapeutics. *BMJ* II: 777-780. British interest in regional anaesthesia and analgesia was somewhat dampened by the ‘Woolley and Roe’ case in 1953. In 1947 Albert Woolley and Cecil Roe, two patients on the same operating list at the Chesterfield and North Derbyshire Royal Hospital, suffered paraplegia and other problems after they received spinal anaesthesia. A third patient on the same list died a few days after surgery. In 1953 Woolley and Roe sued the Ministry of Health, the trustees of the hospital and the anaesthetist, Dr J Malcolm Graham, for damages, but lost the case. See [Anon.]. (1953c) High Court of Justice: Queen’s Bench Division. Judgement for defendants in spinal anaesthetics case, *Roe v. Ministry of Health and others; Woolley v. same*. *The Times* 52778: 2. For a modern clinical perspective on the case, see Hutter CDD. (1990) The Woolley and Roe case. A reassessment. *Anaesthesia* 45: 859-864. Both Doughty and Beinart suggest that that British anaesthetists began to express fresh interest in regional techniques following the Canadian anaesthetist Philip Bromage’s development of the ‘continuous lumbar epidural’ in 1961. In continuous epidural analgesia a catheter was inserted into the epidural space, so that fresh doses of local anaesthetic could be injected when the initial dose had worn off. See Doughty in Morgan (1987), p11; Beinart (1987), pp135-136. For Bromage’s account of his work on this subject, see Bromage PR. (1961) Continuous lumbar epidural analgesia for obstetrics. *Canadian Medical Association Journal* 85: 1136-1148.

⁹⁰⁰ Transcript of author’s interview with Tunstall. Doughty and Crawford described their departments’ ‘epidural service’ in a paper to the OAA symposium on epidural analgesia in March 1971. See, respectively, Doughty, ‘Epidural analgesia and pain pathways in labour’, in Doughty (1972), pp9-15; Crawford, ‘Clinical observations of 1,000 lumbar epidural blocks administered during labour’, in Doughty (1972), pp83-90. For Bryson’s recollections of his and Lewis’s work in this field, see Bryson, unpublished typescript, copy in author’s possession; transcript of author’s interview with Bryson.

⁹⁰¹ Bryson, unpublished typescript, copy in author’s possession.

⁹⁰² Notes of author’s interview with Prof Michael Rosen, University of Wales Medical School, 10 Oct 2006.

epidural cause', and 'the OAA found itself swept along on a tide of public enthusiasm supported by the obstetricians and the pharmaceutical industry'.⁹⁰³

Whether pro- or anti-epidural, the early members of the OAA spent much of their time discussing this technique. Of 84 research papers delivered to 11 OAA meetings between March 1969 and March 1974, 29 made explicit reference in their titles to epidural analgesia.⁹⁰⁴ In his 1971 survey of obstetric anaesthetics services, Taylor made clear links between the provision of an 'epidural service' and the need to improve anaesthetics staffing in hospital maternity units.⁹⁰⁵ Moreover, the OAA devoted its first symposium to the subject of epidural analgesia in obstetrics.⁹⁰⁶ This event, held in Kingston in March 1971, concluded with an open discussion on the question of 'Why are epidurals not more widely practised?'.⁹⁰⁷ Some speakers argued that the use of epidurals was limited by the already high workload of obstetricians and anaesthetists.⁹⁰⁸ Others concluded that epidurals would become popular only by 'patient demand... when the news of its efficacy is disseminated by the patients who have received it'.⁹⁰⁹ Several reported that they had encountered great resistance to the use of epidurals from midwives and obstetricians in their hospital maternity units, who felt that anaesthetists using this technique were trespassing on their own areas of expertise.⁹¹⁰ In his summary of the discussion, Doughty stressed the importance of effective training and regular practice in providing an 'epidural service', but asserted his and the OAA committee's commitment to making the technique more widely available in hospital maternity units, citing what he believed to be the superiority of epidural analgesia over all other forms of pain relief in labour.⁹¹¹

⁹⁰³ Bryson cited three factors in Crawford and Rosen's 'conversion'. First, the emphasis on Mendelson syndrome in *Reports on Confidential Enquiries* published in the late 1960s. By maintaining consciousness, and hence preserving oesophageal reflexes, epidural analgesia greatly reduced the chances of maternal death from this cause. Second, the introduction of longer-lasting anaesthetic agents, such as bupivacaine, for use in epidural analgesia. Third, the attention paid by the media to epidural analgesia at the fourth world congress of anaesthesiologists, held in London in 1968. See Bryson, unpublished typescript, copy in author's possession.

⁹⁰⁴ See the programmes for OAA meetings, Mar 1969 – Mar 1974, OAA archive. The archive does not hold programmes for the autumn 1974, spring 1975 or autumn 1975 OAA meetings.

⁹⁰⁵ Taylor (1971), p103.

⁹⁰⁶ A volume based on this event was published as Doughty (1972).

⁹⁰⁷ Ibid., pp101-114.

⁹⁰⁸ Dr TR Steen, quoted in *ibid.*, p101.

⁹⁰⁹ Dr F Wilson, quoted in *ibid.*, p111.

⁹¹⁰ Dr James Burn, quoted in *ibid.*, p112.

⁹¹¹ Doughty, quoted in *ibid.*, p115.

The development of this debate over epidural analgesia reflects the wider shift in the OAA's structure, status and identity in the first six years of its existence. Throughout this period, the OAA maintained its role as a forum in which working anaesthetists could discuss practical problems and develop social contacts within the profession. But what had in 1969 been conceived as a small, informal discussion group had, by 1975, become a large, nationally and internationally recognised clinical organisation, with a clearly defined set of aims and policies. Much of the impetus for these developments came from the OAA committee, whose members had for the most part been involved in the investigation of pain relief in childbirth at a national level for almost a decade before the foundation of the OAA.

But this account, with its emphasis on the aims, views and activities of the seven members of the OAA committee, is highly asymmetrical. In its first six years of existence, more than three hundred people chose to join the OAA. Though the OAA's policies and aims may to a great extent have been determined by the activities of the OAA committee, it does not follow that a historical account of the OAA should focus on its most active participants to the exclusion of the majority of its membership. In the next section of this chapter, a comparative prosopography of the OAA in its first six years is used to explore the general characteristics of its wider membership.

6.2. A comparative prosopographical approach to the early history of the OAA.

Prosopography is a relatively new method in the history of science and medicine. It has been most widely used by historians of politics, most notably in accounts of the Roman political elite and the English parliaments of the seventeenth century, and sociologists.⁹¹² From the 1970s, historians and sociologists of science began to write on the theoretical aspects of

⁹¹² For prosopography in political history, see, for example, Jones AHM, Martindale JR, Morris J. (1971) *The prosopography of the later Roman empire*. Cambridge: Cambridge University Press; Neale JE. (1949) *The Long Parliament, 1640-1641*. London: Cape. On the sociological approach, see Bourdieu P. (1984) *Homo academicus*. Paris: Editions de Minuit. For a recent study which combines aspects of these methodologies to excellent effect, see my colleague Stephen Casper's work on the Association of British Neurologists (ABN): Casper ST. (2006) *The idioms of practice: British neurology 1880-1960*. University of London PhD thesis.

prosopography, and published prosopographical studies in the history of science.⁹¹³ This present study may be seen, in a limited sense, as an extension of this movement into the recent history of British medicine, and it is therefore subject to the same theoretical and practical considerations. This section presents a prosopographical study of the OAA's membership in the first six years of its existence, comparing and contrasting this with a similar study of the NATC.⁹¹⁴ This section is also in part a historiographical exercise. Historians of post-war British medicine have (as chapter 1 noted) experienced a number of problems with the quantity and availability of source material. Prosopography appears to offer at least a partial solution to this problem, by taking advantage of the widely available and often detailed directories of British medical practitioners, and the necessity for organisations such as the OAA and NATC of maintaining accurate membership records. This study also offers an opportunity to assess the suitability of prosopography as a technique for studying medical organisations of this type.

Lawrence Stone provides a useful discussion of prosopographical methodologies and an outline of the constraints associated with them.⁹¹⁵ He identifies two main strands in the practice of prosopography. The 'elitist' school is concerned with small-group dynamics within a socio-political or financial elite. It takes a strongly biographical approach, identifying a small group of 'significant' individuals, and then assembling all the available information on each member of the group. The 'mass' school takes as its object of study a large number of individuals, about whom little is known. Its method is characterised by numerical analysis, rather than the elaboration of biographical narrative. This study draws elements from both schools, but is closer in its aims and method to the 'mass' school of prosopography.

⁹¹³ See, for example, Shapin S, Thackray A. (1974) Prosopography as a research tool in history of science: the British scientific community 1700-1900. *History of Science* 12: 1-28.

⁹¹⁴ I follow Lawrence Stone's definition of prosopography as 'the investigation of the common background characteristics of a group of actors in history by means of a collective study of their lives. The method employed is to establish a universe to be studied, and then to ask a set of uniform questions – about birth and death, marriage and family, social origins and inherited economic position, place of residence, education, amount and source of personal wealth, occupation, religion, experience of office and so on'. See Stone L. (1971) Prosopography. *Daedalus* (Winter): 46-79, p46. Stone notes that the term 'prosopography' has traditionally been favoured by ancient historians: modern historians have preferred 'collective biography' and sociologists have called their studies 'multiple career-line analysis'.

⁹¹⁵ *Ibid.*, pp47-48.

6.2.1. Prosopography: aims and method.

A central challenge in prosopography is the comparison and contextualisation of the data obtained.⁹¹⁶ Several factors make the NATC an appropriate comparison case for the OAA. The NATC and the OAA were the first two specialist anaesthetics societies established in Britain, and remained the two largest such organisations throughout the period of this study. But they were linked by more than priority and size: Bryson recalled that he and Lewis took the NATC, along with similar ‘travelling clubs’ for obstetricians, as a model for their new group.⁹¹⁷ As such, both might be expected to appeal to a broadly similar constituency of prospective members.

Stone concluded that prosopography as a historical method ‘works best when it is applied to easily defined and fairly small groups over a limited period’, and this study has been constructed with Stone’s constraints in mind.⁹¹⁸ The existence of membership lists for both organisations removes the problem of having retrospectively to impose a group definition. The intention of this study is to illuminate the composition of the organisations themselves rather than to make generalised claims about the British medical profession as a whole in the period of study. A large number of actor categories – qualifications, job titles, place of work and so on – may be used by the historian for purposes of classification. Detailed national directories of the medical profession are widely available for this period, and this minimises the problem of identifying individuals and obtaining information relating to them.⁹¹⁹ Using this method, information has been obtained for at least 85% of all UK members of each organisation in each year.

⁹¹⁶ Ibid., pp61-65; Shapin & Thackray (1974), pp12-13.

⁹¹⁷ See transcript of author’s interview with Bryson; Bryson, unpublished typescript, copy in author’s possession.

⁹¹⁸ Stone (1971), p69.

⁹¹⁹ The *Medical Register*, published annually by the General Medical Council (GMC), is a record of every medical practitioner licensed to practise in the United Kingdom. The *Medical Directory*, also published annually, is a list of information relating to practising and retired medical practitioners in the United Kingdom, based on information collected from individual practitioners.

Initial sources for this study are the OAA and NATC membership lists.⁹²⁰ For the OAA, between 1969 and 1973, this consists of typewritten lists in the committee meeting minutes, giving each member's title, surname and place of work. From 1974, the OAA produced printed membership lists for distribution to its membership, listing home and overseas members by title, initial, surname and address. For the NATC, membership lists giving each member's title, surname and place of work were included in the minute books. Contemporary editions of the *Medical Register* were used for primary identification of individual members.⁹²¹ Membership lists are not available for every year in the period of study. For the OAA, membership lists for 1969, 1970, 1974 and 1975 are available.⁹²² For the NATC, membership lists for 1965, 1966/67 and 1969-1975 are available.

Typical sources for medical prosopography might include obituaries, biographical dictionaries, newspaper profiles, festschriften, personal papers, the *Biographical memoirs of fellows of the Royal Society*, *Munk's Roll* and so on. In this study, such sources are of little value. Both organisations are comparatively recent in origin, with a high proportion of the initial and subsequent membership still alive. Neither the NATC nor the OAA, therefore, figure widely in obituaries or memorials. A search of newspaper and medical journal databases, biographical dictionaries, archival material and *Munk's Roll* produced no relevant sources for both organisations in the entire period. This lack of sources limits the number and range of categories in which analysis may be performed, with a particular impact on 'social' categories – background, early life, marital status and so on – and on the analysis of the overseas membership of each organisation.

In a sociological prosopography, this might be a mortal blow. In this case, where the aim is to examine the professional characteristics of the groups under investigation, information on educational, professional and geographical categories may be obtained from the *Medical Directory*. This is a particularly valuable source for a prosopographical analysis of this type. It

⁹²⁰ The NATC's minute books and membership lists are held by its archivist, Dr Jean Horton.

⁹²¹ It is worth noting that, although the *Medical Register* is ostensibly a list of every medical practitioner licensed to practise in the United Kingdom in a particular year, up to 15% of the UK membership of each organisation could not be identified in it.

includes the majority of medical practitioners working in the United Kingdom; it is available for every year in the period of study; and it provides contemporary categories that can be applied for purposes of data classification. Individual members on the lists were looked up in the *Medical Directory* for each year of their membership, and the results were tabulated. Overseas members were identified where possible, but the range of countries involved and the varying availability of sources meant that full identification was possible in only around a third of cases at most. Twelve categories were applied to the data:

Table 3. OAA / NATC prosopography: category definitions.

Category	Definition
1. Name.	Full name as listed in <i>Medical Register</i> .
2. Gender.	Gender as listed in <i>Medical Register</i> .
3. Year of qualification.	Year of qualification as listed in <i>Medical Register</i> .
4. Service.	Number of years since qualification, calculated from above.
5. Place of qualification.	University / medical school at which medical degree was obtained as listed in <i>Medical Directory</i> .
6. DObst.	Whether or not the individual holds the DObst and, if so, date of qualification as listed in <i>Medical Directory</i> .
7. DA.	Whether or not the individual holds the DA and, if so, date of qualification as listed in <i>Medical Directory</i> .
8. FFARCS.	Whether or not the individual holds the FFARCS and, if so, date of qualification as listed in <i>Medical Directory</i> .
9. Place of work.	Place of work as listed in <i>Medical Directory</i> .
10. Administrative area.	Governmental administrative area covering the individual's place of work, as listed in <i>Medical Directory</i> .
11. Occupation.	Job title as listed in <i>Medical Directory</i> .
12. OAA/NATC member.	Presence of the individual on the membership lists of the OAA or NATC (past, present or future) in the period of this study.

This discussion follows the prosopographical convention of presenting data in tables, rather than graphs, because of the complexity and non-consecutive nature of the data. For ease of comparison, the tables have been given complementary numbers (so that, for example, tables

⁹²² Although the OAA has produced an annual membership list for circulation amongst its membership every year since 1974, it has not kept copies of this list in its archive. For this study, I have collected membership lists held by individual members.

OAA 4 and NATC 4 both present analyses by place of education for the UK membership of both organisations). Tables detailing these data are printed in Appendix 1 (pp 312-333):

Table 4. OAA / NATC prosopography: data tables.

Table number	Contents	Page numbers
OAA / NATC 1	Membership.	289-290
OAA / NATC 2	Membership turnover.	291-292
OAA / NATC 3	Membership overlap.	293-294
OAA / NATC 4	Place of education (UK members only).	295-296
OAA / NATC 5	Time since qualification.	297-298
OAA / NATC 6	Occupation.	299-300
OAA / NATC 7	Postgraduate qualifications.	301-302
OAA / NATC 8	Place of work (UK members before 1974).	303-306
OAA / NATC 9	Place of work (UK members from 1974).	307-310

6.2.2. Prosopography: discussion.

Perhaps the best place to begin is with the total membership numbers for each organisation in the period of study (OAA / NATC 1). In terms of total membership, both organisations began with very similar figures: 42 for the OAA, and 40 for the NATC. Comparing their first full year of existence, the NATC experienced almost twice the growth of the OAA, and at the time of the OAA's foundation in 1969 the NATC's membership was more than twice that of the OAA (42 for the OAA and 92 for the NATC). By 1975, however, the OAA's membership was more than double that of the NATC.

Up to 1975, the NATC's membership showed a consistent growth rate of 5-7% per year, with a more rapid increase of around 20% at the end of the period. The 21% increase and then 3% decrease in 1972-1973 was caused by nine overseas members who appeared on the 1972 list but not on the 1973 list, where they were reclassified as 'correspondents'.⁹²³ The OAA's year-on-year growth in this period is impossible to calculate, but its overall growth in the first six

⁹²³ See NATC minute book, 1972, 1973, held privately by Horton.

years of its existence (1969-75) was 740%, compared with the NATC's overall growth in its first six years (1965-71) of 263%.

Similar patterns may be discerned in the proportion of female members within the total UK membership, and in the proportion of overseas members within the overall total membership, suggesting that these groups were joining both organisations at a rate approximately proportional to their overall growth.⁹²⁴ In its first year, the NATC had a higher proportion of female members than the OAA (15% compared to 7%), but after five years this proportion had reversed. Throughout the first half of the 1970s, the NATC's female membership represented 8-10% of the UK total, compared with the OAA's 18-20%.

The OAA had a consistently higher proportion of overseas members, consistent again with evidence from the OAA's meeting minutes of repeated attempts to establish formal links with international organisations. The proportion of overseas members rose rapidly, from 2% in 1969 to 20% in 1974. For the NATC, the absolute number of overseas members remained broadly constant, between 3 and 5 throughout the period of study (with the exception of 1972-73, noted above), and hence the proportion of overseas members decreased as the total membership increased.

Crude membership figures alone give only a limited amount of information. They do not, for example, reveal the number of members joining, leaving or remaining from year to year. Tables OAA / NATC 2 summarise the data on membership turnover. In this case, it is more difficult to pick out general trends from the data for the UK membership, once again because of the lack of data for consecutive years and the great variations in the numbers of members joining and leaving from year to year. But these data suggest fairly strongly that the apparent increase in the UK membership of both organisations over the period of study included a small but variable proportion (2%-20%) of members leaving, and a larger but equally variable proportion of new members joining.

Clearer patterns may be seen in the turnover data for overseas members. The NATC's overseas membership remained fairly constant (apart from 1972-1973), varying between 2 and 4

⁹²⁴ Too few data were available to permit comparison of gender proportions in the overseas membership of both organisations.

members throughout the period of study. The OAA, on the other hand, experienced an increase both in its new overseas membership and also in the proportion of overseas members remaining on the list from year to year, with a variable but proportionally small number of overseas members leaving each year. A serious problem in interpreting the data relating to membership turnover is the lack of information on reasons for joining or leaving. More usual prosopographical sources might be able to provide data on this subject, but those available for this study do not.

This analysis has, up to this point, considered the OAA and the NATC as two separate organisations. Tables OAA / NATC 3 show the overlap in membership between the two groups. A small, but significant and persistent, overlap existed throughout the period of study. Approximately 10% of NATC members joined the OAA in 1969, and for the first six years of their coexistence a growing number of individuals had been, were or would become members of both organisations.

The remaining tables consider the professional status and geographical distribution of OAA and NATC members, beginning with place of education (tables OAA / NATC 4). The proportion of membership educated at English and Scottish medical schools was broadly similar for both organisations throughout the period of the study: between 50% and 60% for English schools, and between 15% and 25% for Scottish schools. Within the Scottish schools, Edinburgh and Glasgow were consistently the most common, representing 60-70% of the Scottish-educated members for both organisations throughout the period. The OAA had a consistently higher proportion of members educated in Wales and Northern Ireland: 1% and 2-3% respectively, compared with the NATC's 0.5% and 1% respectively. Within the English schools, London was consistently the most common, representing 45-55% of English-educated members for both organisations throughout the period of study, and Cambridge was the second most common, representing 8-13%. This proportional relationship remained fairly constant for both organisations throughout the period of the study, and it is difficult to discern any trends or differences between the data sets over time. For members educated overseas, the largest proportion (50-75% in both cases) came from medical schools in former British colonies – Australia, New Zealand, India, Pakistan and South Africa – with the largest single contingent

coming from Indian medical schools. These data are, however, difficult to contextualise. The variation in proportion may simply have represented national variations in the size and output of different medical schools. It seems likely, for example, that the primacy of London is explained by the fact that it represented the combined output of the half-dozen or so medical schools within the University of London. The fact that little data on education is available for overseas members, who represented up to 25% of the total membership of each organisation, makes generalisation on this subject even more difficult.

The data on time since qualification (tables OAA / NATC 5) are less ambiguous. OAA members are most numerous in the intervals 10-14 and 15-19 years since qualification, and NATC members in the intervals 15-19 and 20-24 years since qualification. Differences in data spread between the two organisations can also be seen. In the first two years of its existence the NATC had a consistently higher proportion of members in the first two intervals than the OAA: around 20% compared to the OAA's 3-5%. In the first few years of their existence the data for both organisations clustered around the modal average, with few or no members in higher intervals. As time passed a 'data tail' appears to have accumulated, with an increasing proportion of members in the two highest intervals. Combined with the observations from the membership turnover data in tables OAA / NATC 2, this suggests both a fairly consistent intake of younger members and the persistence of older members in each organisation.

Tables OAA / NATC 6 give further information on professional status. For both organisations, consultant anaesthetists made up the largest professional group within the membership: between 60% and 80% of total UK membership for both organisations in each year of the study. This is perhaps unsurprising, given the nature of the organisations being studied: one might expect consultant anaesthetists to have represented their core membership constituency. Members from junior anaesthetics grades might be expected for similar reasons. Junior anaesthetics grades represented 20-25% of the NATC's membership in its first few years. This figure quickly fell to less than 5%, and remained at this level for the rest of the study period. In the case of the OAA, the proportion of junior-grade members was initially small, but quickly rose to and remained at around 10%.

These tables also suggest that neither the OAA nor the NATC limited its membership to anaesthetists. In both cases, members of related specialties (obstetricians and paediatricians in the case of the OAA, neurosurgeons in the case of the NATC) formed a significant proportion (20-25%) of the total UK membership. Members of these related specialties did not appear on the membership lists of either organisation in the first two years of membership. Both organisations also had a small group of members with more general connections to anaesthetics: a medical advisor to an anaesthetics manufacturer, a senior reader in animal anaesthesia, a consultant dental anaesthetist, and so on. It is difficult to draw any firm conclusions from these isolated data.

Tables OAA / NATC 7 reflect the primacy of the FFARCS as a consultant-level qualification for anaesthetists in this period. It was consistently the most common qualification for members of both organisations throughout the period of the study. By 1975, 84% of the NATC's UK membership and 72% of the OAA's UK membership held the FFARCS, alone or in combination with other qualifications. The number of UK members holding the FFARCS as their only postgraduate qualification also increased over the period of the study, but it should be noted that this was considerably smaller than the number holding both the FFARCS and the DA. The DA, as a lower-level qualification indicating an interest in the subject, was far less frequent than the FFARCS, both alone and in combination with other qualifications. There also remained a small but consistent proportion (around 5%) of the UK membership in each organisation that held neither the FFARCS nor the DA. These observations could perhaps be related to the high proportion of UK members holding consultant anaesthetist positions, and the comparatively low frequency of UK members from non-anaesthetics specialties.

Analysis of membership by geographical location is complicated by the structural reorganisation of the NHS in 1974.⁹²⁵ This altered the names, numbers and boundaries of regional administrative areas. An analysis of geographical distribution of UK memberships by administrative area (tables OAA / NATC 8 & 9) is, at first glance, confusing. No obvious trends or discontinuities stand out. The high proportion of members working in London teaching

⁹²⁵ On the 1974 reorganisation of the NHS, planned by Sir Keith Joseph, the Conservative Secretary of State for Health and Social Services, see Webster (2002), pp99-111.

hospitals, for example, may again reflect the large number of hospitals and medical schools under this heading. There is no discernable geographical clustering of the membership of either organisation in the period of this study. OAA and NATC members worked in most (if not all) RHAs and teaching hospital groups.

6.2.3. Prosopography: conclusion.

Stone argues that the first step in the analysis of any prosopographical study is to recognise the limitations of the data.⁹²⁶ This present study has been limited to a dozen parameters, relating to a few hundred clinicians (out of several tens of thousands of NHS medical staff in the 1960s and 1970s), in two small organisations, over a period of less than a decade. Moreover, a number of practical and methodological constraints have become apparent in the course of this study. In constructing the prosopography, data on ‘professional’ categories were obtained with comparative ease. Information on social or cultural categories proved more difficult to acquire, thus reducing the range of analyses that could be performed on the data. It is difficult to imagine how this problem might be overcome in practical terms. Similarly, the lack of available information on the two organisations’ overseas membership, a large proportion of the total membership, restricted the scope of the analysis. With these deficiencies in mind, it is better to point to general trends in the data sets, than to attempt a more rigid set of conclusions.

The OAA and the NATC were founded with similar numbers of members. Comparing the first five years of their existence, the OAA grew more quickly, both proportionally and in terms of simple numbers.⁹²⁷ For both organisations, this net growth included a small but variable proportion of resignations. Both organisations attracted and retained a fairly constant proportion of their membership from overseas. The fairly consistent proportion of shared membership shows that membership of these two organisations was not seen as mutually exclusive. This suggests that, for some members at least, their self-perception as ‘anaesthetists’ was stronger

⁹²⁶ See Stone (1971), pp57-65.

⁹²⁷ One rather obvious explanation for this difference in growth rates might invoke the material differences between obstetrics and neurosurgery – birth being, fortunately, a far more frequent event than brain surgery.

than any developing group identity associated strictly with the practices of 'neurosurgical anaesthesia' or 'obstetric anaesthesia'.

Consultant anaesthetists made up a majority of the membership for both organisations, and this is reflected in the high proportion of UK members holding the FFARCS. This did not, however, represent an exclusive constituency. Both organisations also included junior and academic anaesthetics staff, members of related disciplines, and individual members with a variety of professional roles. Neither group appears to have attracted non-medical members. Members of both organisations were generally not new entrants to medicine. Most qualified a decade or more before joining either the OAA or NATC. The UK membership of both organisations appears to have been geographically diverse, educated and employed in a range of institutions, with no apparent clustering in particular parts of the country.

This comparative prosopography, combined with the archival history of the OAA's foundation and development, goes some way to providing an internal account of the OAA in the first six years of its existence. In particular, it indicates the activities and aims of the OAA's most active members, and gives some impression of the characteristics of the OAA's wider membership. The final section of this chapter will explore one context in which the OAA attempted to put its aims and policies into action: the RCOG's ad hoc committee on the relief of pain in labour.

6.3. The OAA, the RCOG ad hoc committee on the relief of pain in labour and anaesthetics staffing policy 1970-1975.

In its first six years of existence the OAA built up a nationwide and international membership, consisting mainly of consultant anaesthetists and junior anaesthetics staff. It developed formal links with other national and international medical organisations. Its committee elaborated a set of aims and policies, in which they set out what they saw as the appropriate role for anaesthetists in hospital maternity units. And a substantial proportion of its meetings were devoted to debate over the benefits and disadvantages of epidural analgesia. Practitioner-historians of obstetric anaesthesia have portrayed the widespread adoption of this

technique as a significant step forward in relieving the pain of labour and reducing maternal mortality rates.⁹²⁸

In one sense, the rapid adoption of epidural analgesia – a technique which relieved pain while preserving consciousness and reflexes, and hence did not cause Mendelson syndrome – was a response to the high maternal mortality rates revealed by the *Reports on Confidential Enquiries*. But this section argues that debates over the control of epidural analgesia in this period reveal a tension between the progressivist humanitarian rhetoric of the early OAA and its struggles with other organisations. By focusing on the promotion of epidural analgesia, obstetric anaesthetists drew attention away from other, more contested aspects of their practice, such as maternal and neonatal resuscitation and the involvement of non-medical practitioners – particularly midwives – in the provision of anaesthesia and analgesia. To take only one example, much literature from this period emphasises the role of anaesthetists in resuscitation, but this subject is almost entirely absent from sources relating to obstetric anaesthesia and analgesia, because practitioners of another new speciality – neonatal paediatrics – had largely taken over the role of providing resuscitation to newborns.⁹²⁹

Webster has identified this period as the beginning of the second phase in the history of the NHS – a period of ‘planning and reorganisation’, originating in governmental recognition of serious flaws in the administrative structure of the NHS.⁹³⁰ Correspondence between DHSS officials suggests that, throughout this period, anaesthetics staffing under the NHS was perceived to be in a state of near-crisis. But the ‘crisis’ within NHS anaesthetics staffing must be seen in the wider context of the political and administrative position of the NHS at the time. Perceptions of ‘crisis’ within the NHS were in turn related to a wider sense of national and

⁹²⁸ See, for example, Doughty in Morgan (1987), pp1-18.

⁹²⁹ There is little historical literature on the emergence of paediatrics as a speciality in the UK. On the general historiography of paediatrics, see Viner R. (1999) Using the history of pediatrics. *Health and History: Bulletin of the Australian Society for the History of Medicine* 1: 162-168. On the American context, see Colon AR, Colon PA. (1999) *Nurturing children: a history of pediatrics*. London: Greenwood Press. For an American practitioner-historian’s perspective on the role of paediatricians in resuscitation, see Smith RM, ‘History of pediatric anesthesia’, in Motoyama EK, Davis PJ. (eds) (1996) *Smith’s anesthesia for infants and children*. Sixth edition. St Louis: Mosby, pp909-924. On the development of paediatrics in England and Wales, and the tensions between neonatal paediatricians, obstetricians and anaesthetists, see Christie & Tansey (2001); Reynolds & Tansey (2005).

⁹³⁰ On the period of ‘planning and reorganisation’, see Webster (2002), chap 2.

international financial crisis at this time.⁹³¹ This perception underpinned official responses to the OAA's staffing policy. In the late 1960s and early 1970s, obstetricians, the CMB and DHSS officials began to engage with the idea of dedicated obstetric anaesthetics services for hospital maternity units. Their discussions on this subject, which between 1971 and 1973 took place partly in the context of the RCOG's ad hoc committee on the relief of pain in labour, focused on various technical and practical aspects of epidural analgesia – in particular, the question of whether unsupervised midwives working in hospitals should be permitted to 'top up' epidurals inserted by clinicians.

In his 1999 speech to the OAA, Rosen recalled that the RCOG ad hoc committee on the relief of pain in labour had been founded at the OAA's request, to replace the CNOOA (on which several members of the OAA committee had served).⁹³² The RCOG ad hoc committee did indeed find its roots in the dissolution of the CNOOA, and the OAA became involved at an early stage with its activities. But the RCOG ad hoc committee appears initially to have been conceived as an expert advisory body for the CMB. In June 1970 Gordon Robson, professor of anaesthetics at the RPMS, suggested to Fenney that the CMB might set up an advisory body on obstetric analgesia to 'bring some concentrated expertise into this sadly neglected field'.⁹³³ In Robson's view, this body would be far more useful to midwives than to anaesthetists:

We are aware that it is unlikely that anaesthetists will exist in such profusion in the future that they could materially contribute to individual patient analgesia. However, the standards [of analgesia in midwifery] might be raised by better educational programmes, rapid assessment of new ideas and interest engendered by an expert advisory body.⁹³⁴

Though Robson was not an OAA member, he had 'the current group of obstetric anaesthetists' in mind for the membership of the new body, provided they were put under 'a

⁹³¹ On this point, see *ibid.*, pp70-78, and Berridge (1999), pp55-60.

⁹³² Bryson, unpublished typescript, copy in author's possession.

⁹³³ Robson to Fenney, 25 Jun 1970, TNA DV 11/222.

⁹³⁴ *Ibid.*

firm and impartial chairman'.⁹³⁵ The CMB (under Arthure, its new chairman) supported Robson's proposal, but wanted first to consult the RCOG.⁹³⁶ Arthure put Robson's proposal to EJ Alment, honorary secretary of the RCOG. Alment replied to Arthure's 'very important suggestion' immediately, offering to discuss the idea with Sir Norman Jeffcoate, then president of the RCOG.⁹³⁷ 'Personally', he noted, 'I think this is the most important single function next to be tackled in the obstetric field'.⁹³⁸ Robson's was not the last call for an expert committee on this subject.⁹³⁹ A few months after Alment's letter to Arthure, Mushin asked the DHSS standing medical advisory committee (SMAC) to establish 'a sub-committee to study the question of obstetric anaesthesia', citing the inadequate staffing of hospital maternity units by anaesthetists.⁹⁴⁰ Sir Ronald Tunbridge, the chairman of the SMAC, supported Mushin's idea, but after consulting with Jeffcoate he concluded that Robson's earlier proposal removed the need for a separate SMAC sub-committee.⁹⁴¹

Meanwhile, an RCOG council meeting in November 1970 recommended that the new body should be an ad hoc committee of the RCOG.⁹⁴² Barnes (by then an RCOG council member) offered to chair this new committee. On 7 January 1971 she, Jeffcoate and two consultant obstetricians met to discuss membership and terms of reference. They settled on three main aims. First, the ad hoc committee should be 'a continuing source of expert advice' to 'people who might ask' about obstetric anaesthesia and analgesia.⁹⁴³ Second, it should advise on the use of existing drugs and techniques. Third, it should 'encourage and support' research on all

⁹³⁵ Ibid.

⁹³⁶ CMB minutes, 9 Jul 1970, in CMB minute book 1961-73, TNA DV 1/20.

⁹³⁷ EJ Alment, honorary secretary, RCOG, to Arthure, 15 Jul 1970, TNA DV 11/324.

⁹³⁸ Ibid.

⁹³⁹ Nor was it the first. As early as 1954, McClure Browne had suggested to Godber that 'there is a need for an advisor, almost a director, of obstetric analgesia and anaesthesia on a national basis'. See McClure Browne to Godber, 10 Jul 1954, TNA MH 134/142. After a discussion with Godber, McClure Browne dropped the idea: 'few anaesthetists are closely interested, if indeed they are fully conversant with the subject' and 'a central advisor, however much he went around talking, would probably not produce results'. McClure Browne, quoted in Godber, 'Note of a discussion with Prof Browne', 27 Jul 1954, TNA MH 134/142.

⁹⁴⁰ Mushin to Sir Ronald Tunbridge, chairman, standing medical advisory committee, DHSS, 14 Jan 1971, TNA MH 150/589.

⁹⁴¹ Sir Norman Jeffcoate, president, RCOG, to N Teller, community health services division, DHSS, 26 Jan 1971, TNA MH 150/589.

⁹⁴² RCOG council minutes, 28 Nov 1970, RCOG C6/1.

⁹⁴³ 'Meeting of the ad hoc committee on the relief of pain in labour', 7 Jan 1971, RCOG T17.

methods of pain relief in childbirth.⁹⁴⁴ Barnes proposed that the ad hoc committee should consist of representatives from the CMB, RCM and FARCS. After discussion, the Royal College of General Practitioners (RCGP) was added to this list, and Jeffcoate suggested that the FARCS should be invited to choose one of its representatives from the OAA.⁹⁴⁵

As Robson had suggested, one part of the ad hoc committee's remit was to provide expert advice on obstetric analgesics for the CMB. At Arthure's request, one of its first tasks was to review the inhalational analgesics approved by the CMB for use by unsupervised midwives.⁹⁴⁶ Over the next two years the ad hoc committee discussed, amongst other things, the costs of different analgesic agents; the relative benefits of Trilene and Entonox; and the need for medical examination of mothers who were to receive volatile inhalational analgesics from unsupervised midwives.⁹⁴⁷ But, contrary to Robson's initial intentions, the ad hoc committee spent a comparatively small proportion of its time discussing analgesia in midwifery. Instead, it focused on anaesthetics staffing in hospitals, and the provision of an epidural service to hospital maternity units. It was this context, informed by the activities of the OAA committee and the OAA's representative on the ad hoc committee, which shaped discussions over the question of allowing midwives to 'top up' epidurals.

OAA minutes show that members of the OAA committee were aware of Robson's proposal shortly before the RCOG council formally agreed to establish an ad hoc committee.⁹⁴⁸ Bryson and Crawford wrote to Fenney at the CMB and Jeffcoate at the RCOG, pointing out that 'the OAA would be most willing – indeed anxious – to have official representation on this [committee]'.⁹⁴⁹ Jeffcoate sent a copy of Bryson and Crawford's letter to Barnes.⁹⁵⁰ Though he was happy for the OAA to be represented on the ad hoc committee, he was concerned that their

⁹⁴⁴ Ibid.

⁹⁴⁵ Ibid.

⁹⁴⁶ 'Report on inhalational analgesics', Jun 1971, RCOG T17. The (unnamed) authors of this report concluded that all inhalational analgesics then approved by the CMB were suitable for use by unsupervised midwives, but that Entonox was the safest and most effective.

⁹⁴⁷ See, respectively, MacGregor to Barnes, 16 Feb 1972, RCOG C6/3; Macgregor to Barnes, 19 Jun 1972, RCOG C6/4; 'Meeting of the ad hoc committee on the relief of pain in labour', 10 Feb 1972, RCOG T17.

⁹⁴⁸ 'Minutes of the first business meeting', 8 Oct 1970, OAA archive.

⁹⁴⁹ Bryson and Crawford to Fenney, 28 Oct 1970, TNA DV 11/324; Bryson and Crawford to Jeffcoate, 9 Dec 1970, RCOG C6/1.

⁹⁵⁰ Jeffcoate to Barnes, 11 Dec 1970, RCOG C6/1.

nomination should be made through the FARCS 'since, to some extent, the OAA are an enthusiastic splinter group'.⁹⁵¹

This question appears to have been resolved fairly quickly, and in February 1971 the FARCS appointed Doughty as one of their representatives.⁹⁵² In all subsequent correspondence on the subject, Doughty took pains to point out that he represented the FARCS and not the OAA.⁹⁵³ But his double role – both a representative of the FARCS and an active member of the OAA committee – generated tensions between the OAA, the RCOG and the FARCS. Doughty and the OAA committee continued to press for direct OAA representation on the ad hoc committee.⁹⁵⁴ Jeffcoate, however, maintained his position: the RCOG could establish formal relations only with other royal colleges or faculties.⁹⁵⁵ Scurr, then dean of the FARCS, supported Jeffcoate's position. In a letter to Jeffcoate, he cast doubt on the OAA's status as a body of legitimate clinical opinion.⁹⁵⁶ A year or so later his view of the OAA had declined even further. After each meeting of the ad hoc committee, Doughty prepared a short, informal report on the meeting for the OAA committee.⁹⁵⁷ In March 1973 Scurr obtained a copy of one such report, and complained to Professor Stanley Clayton, the new president of the RCOG.⁹⁵⁸ In his report, Doughty had described himself as a representative of the OAA rather than the FARCS and, according to Scurr, his account 'differed in certain important respects' from the official minutes of the meeting:

⁹⁵¹ Ibid.

⁹⁵² RCOG memorandum to Jeffcoate, Feb 1971, RCOG C6/1.

⁹⁵³ See, for example, Doughty, quoted in 'OAA committee meeting minutes', 18 Sept 1971, OAA archive.

⁹⁵⁴ See, for example, Doughty to Barnes, 16 Feb 1972, RCOG C6/2; Crawford to Barnes, 16 Jun 1972, RCOG C6/3.

⁹⁵⁵ Jeffcoate to Doughty, 14 Mar 1972, RCOG C6/2.

⁹⁵⁶ Scurr to Jeffcoate, 20 Mar 1972, RCOG C6/2.

⁹⁵⁷ None of Doughty's informal reports are preserved in the OAA archive, but a copy of his report on the ninth meeting of the ad hoc committee is held in RCOG C6/2.

⁹⁵⁸ Scurr to Clayton, 23 Mar 1973, RCOG C6/2.

It is my memory of events that the OAA acted as a pressure group to persuade your College to set up the ad hoc committee in the first place and that they are since attempting to establish and consolidate their own position.⁹⁵⁹

In one sense, Scurr was right. Members of the OAA committee saw the ad hoc committee as an opportunity to promote what they believed to be the appropriate role of consultant anaesthetists in obstetrics. From the beginning of his involvement with the ad hoc committee, Doughty had emphasised the importance of anaesthetics staffing in establishing an obstetric anaesthetics service for hospital maternity units. In their initial letter to Jeffcoate in October 1970, Crawford and Bryson had emphasised the need for a comprehensive review of anaesthetics staffing in hospital maternity units. If Taylor's survey was accurate, they claimed, 160 new full-time consultant anaesthetists would be needed to provide an effective national epidural service.⁹⁶⁰

The ad hoc committee supported this idea, and Barnes asked the CMO for official data on the employment of anaesthetists in hospital maternity units in England and Wales.⁹⁶¹ In his reply Godber pointed out that, as a whole, anaesthetics 'has been one of the most rapidly expanding specialities'.⁹⁶² In the previous decade, he claimed, the number of consultant anaesthetists working in the NHS had increased from 886 to 1232, and the number of senior registrars in anaesthetics from 96 to 219. The DHSS did not collect central data on anaesthetics staffing by department, but he could recommend an alternative source: 'Gordon Taylor's questionnaire survey on this subject is useful'.⁹⁶³

Jeffcoate's correspondence with the Scottish Office on this subject was equally unsuccessful.⁹⁶⁴ Following this fruitless approach, he suggested that a face-to-face meeting

⁹⁵⁹ Ibid.

⁹⁶⁰ Bryson and Crawford to Jeffcoate, 9 Dec 1970, RCOG C6/1.

⁹⁶¹ 'Meeting of the ad hoc committee on the relief of pain in labour', 11 Mar 1971, RCOG T17.

⁹⁶² Godber to Barnes, 6 Apr 1971, RCOG C6/1.

⁹⁶³ Ibid.

⁹⁶⁴ Jeffcoate to Dr JHF Brotherston, CMO, Scottish Home and Health Department, 5 Jul 1971; Brotherston to Jeffcoate, 19 Jul 1971, RCOG C6/3. Less than a month after Jeffcoate's enquiry, the *BMJ* published an article by GD Parbrook, an anaesthetist at the Glasgow Royal Infirmary, on anaesthetics staffing in Scotland. Parbrook identified a 'national shortage of senior anaesthetists' in Scotland, and urged the Department of Health for Scotland to increase the number of places on anaesthetics training

between the ad hoc committee and DHSS and CMB representatives might be a better way to proceed.⁹⁶⁵ He asked Barnes to draw up a brief, outlining the ad hoc committee's views on the subject.⁹⁶⁶ This document drew heavily on the OAA's position as expressed in its constitution, highlighting the deficiencies in hospital staffing identified by Taylor and the criticisms of obstetric anaesthetics practice expressed in the *Reports on Confidential Enquiries*. Barnes obtained RCOG council endorsement for the main points of the OAA's staffing policy, and claimed that, despite the increase in the numbers of anaesthetists working in the NHS, DHSS data revealed a general shortage of anaesthetists for all types of work.⁹⁶⁷

In her brief, Barnes also adopted the OAA's policy on epidural analgesia. This technique should, she argued, be available in every hospital maternity unit, and required 'the services and supervision of experts' – whether anaesthetists or suitably trained obstetricians.⁹⁶⁸ The ad hoc committee sent copies of her brief to the DHSS and CMB, in preparation for a meeting in early October 1971.⁹⁶⁹ At this meeting Godber, contrary to his earlier emphasis on the increased staffing in anaesthetics, accepted the existence of general staff shortages within anaesthesia as a speciality. He agreed that 'there should be a definite allocation of anaesthetists' time or anaesthetists to the obstetric units', and offered to write personally to all HMCs and boards of governors of teaching hospitals, pointing out the relevant conclusions of the *Reports on Confidential Enquiries*.⁹⁷⁰ But the DHSS and the FARCS opposed any move to 'incorporate in [an individual consultant anaesthetist's] contract how much time should be spent on specific duties'.⁹⁷¹

programmes. See Parbrook GD. (1971) Anaesthetic staffing and training requirements in Scotland. *BMJ* 3: 293-296.

⁹⁶⁵ Jeffcoate to Godber, 28 Jul 1971, RCOG C6/3.

⁹⁶⁶ See 'Draft brief', Oct 1971, RCOG T17.

⁹⁶⁷ Ibid.

⁹⁶⁸ Ibid.

⁹⁶⁹ 'Meeting of the ad hoc committee on the relief of pain in labour', 9 Sept 1971, RCOG T17.

⁹⁷⁰ 'Joint meeting with the DHSS and the CMB', 28 Oct 1971, RCOG T17. See also Godber to all SAMOs, chairmen of medical executive committees of undergraduate teaching hospitals, Queen Charlotte's Maternity Hospital, and boards of governors of hospitals, 3 Apr 1973, TNA MH 149/1696.

⁹⁷¹ 'Joint meeting with the DHSS and the CMB', 28 Oct 1971, RCOG T17.

Though the ad hoc committee continued to discuss the problem of anaesthetics staffing in hospital maternity wards, it took no further formal action.⁹⁷² DHSS interest in this subject continued after the ad hoc committee ceased to meet early in 1973. In March 1973 Dr Mary Tate, a DHSS medical officer, recommended 'a modest increase in the number of registrar posts in anaesthetics' in regions with lower levels of anaesthetics staffing in hospital maternity units as the best way to address the national shortage of anaesthetists.⁹⁷³ The FARCS supported this approach, but warned that 'the indiscriminate creation of new registrar posts would not solve the problem'.⁹⁷⁴

But official support for increased recruitment at the registrar level, and for the OAA's staffing policy, did not always reflect practice. In one case at least the DHSS did not support anaesthetists seeking to increase consultant staffing in hospital maternity units at a local level, arguing that only a rise in workload, rather than a change in staff deployment, could justify the creation of new consultant posts. In the spring of 1973 Dr Ann Whitfield, a consultant anaesthetist at the Lewisham Hospital, London, applied to the South-East Metropolitan RHB for a grant.⁹⁷⁵ She hoped to use part of the RHB's clinical research fund to create a new consultant anaesthetist post in the maternity unit, allowing the provision of 'a full obstetric anaesthesia service'.⁹⁷⁶ Dr Geoffrey M Cundy, the senior consultant anaesthetist at Lewisham, supported Whitfield's application, citing Doughty's and Crawford's anaesthetics departments as examples of the 'modern anaesthetics practice' he wanted to bring to Lewisham.⁹⁷⁷ But the RHB, the DHSS and eventually Sir Keith Joseph, the Secretary of State for Health and Social Services, all rejected Whitfield's application.⁹⁷⁸ Research funds could not be diverted into staffing; the DHSS would not approve a new consultant, registrar or even locum post; and Joseph stressed the point

⁹⁷² See, for example, the discussion recorded in 'Meeting of the ad hoc committee on the relief of pain in labour', 10 Feb 1972, RCOG T17.

⁹⁷³ Dr Mary Tate, DHSS, to Organe, 9 Mar 1973, TNA MH 149/1696.

⁹⁷⁴ 'Meeting between the DHSS and the Faculty of Anaesthetists', 21 Feb 1974, TNA MH 149/1696.

⁹⁷⁵ Whitfield's original letter is not preserved, but its contents are outlined in SAMO, South-East Metropolitan RHB, to Dr Ann Whitfield, consultant anaesthetist, Lewisham Hospital, 9 Jan 1973, TNA MH 149/1696.

⁹⁷⁶ Ibid.

⁹⁷⁷ Dr Geoffrey M Cundy, chairman, division of anaesthesia, Lewisham Group Hospitals, to Sir Keith Joseph, Secretary of State for Health and Social Services, 14 Mar 1973, TNA MH 149/1696.

⁹⁷⁸ See, respectively, SAMO, South-East Metropolitan RHB, to Whitfield, 9 Jan 1973; SAMO, South-East Metropolitan RHB, to Whitfield, 14 Feb 1973; Joseph to Cundy, 7 May 1973, TNA MH 149/1696.

that 'any increase in anaesthetics staff would have to be justified by a general increase in the workload'.⁹⁷⁹

This apparent sense of stalemate led to a series of proposals that challenged half a century of attempts by anaesthetists to secure their status as independent specialist clinicians. In the winter of 1974 Clayton and Yellowlees, who had in 1973 replaced Godber as CMO, discussed another possible way to improve the provision of obstetric anaesthesia.⁹⁸⁰ Could obstetric registrars be seconded to anaesthetics departments for part of their training? Both men supported the principle, but could not agree on an appropriate payment and employment structure for registrars in this position.⁹⁸¹ Following this, the scheme appears to have been dropped. An internal DHSS report on anaesthetics staffing in hospitals appears to have ignited further official concern in the spring of 1975, concluding that 'immediate crisis' and longer-term problems in anaesthetics were almost inevitable.⁹⁸²

Throughout 1975 DHSS officials continued their attempts to relieve the staffing shortage.⁹⁸³ A DHSS medical officer raised the possibility of training non-medical staff to assist with anaesthetics. The fact that this deeply controversial idea was even considered suggests that the DHSS seriously believed that staffing shortages in anaesthetics had reached a critical point. Robson, who had in 1973 replaced Scurr as dean of the FARCS, was quick to reject this idea: 'one can surely only attribute the disastrous situation in obstetrics in this country to the non-medical grade working in delivery suites'.⁹⁸⁴ For Robson, the involvement of 'the non-medical grade' in obstetric anaesthesia and analgesia was a serious threat both to the safety and effectiveness of clinical practice and to the professional status of his members. But this startling challenge to the newly-acquired status of anaesthetists was taken up by other groups involved in maternal care.

⁹⁷⁹ Joseph to Cundy, 7 May 1973, TNA MH 149/1696.

⁹⁸⁰ See, for example, Yellowlees to Clayton, 23 Oct 1974, RCOG C6/2.

⁹⁸¹ See Yellowlees to Clayton, 7 Nov 1974; Clayton to Yellowlees, 11 Nov 1974, RCOG C6/2.

⁹⁸² WG Robertson, DHSS, 'Anaesthetics: medical manpower appreciation', Mar 1975, TNA MH 149/1696.

⁹⁸³ See, for example, 'DHSS office meeting: medical manpower planning: anaesthetics and surgery', 9 May 1975; 'Anaesthetics mini review', 29 Oct 1975, TNA MH 149/1696.

⁹⁸⁴ Prof Gordon Robson, dean, FARCS, to Dr JML Kloppe, SMO, DHSS, 25 Jun 1975, TNA MH 149/1696.

For some obstetricians and government officials in this period, maintaining the range of practitioners involved in the provision of obstetric anaesthesia and analgesia was a solution both to the problem of providing an effective anaesthetics service in hospital maternity units and, in part, to the wider obstacle of hospital anaesthetics staffing shortages. From the mid-1960s not only anaesthetists but also obstetricians had begun to take an interest in new regional analgesic and anaesthetic techniques, particularly epidural analgesia.⁹⁸⁵ Some obstetricians began to practise these techniques as a way of circumventing anaesthetics staff shortages.⁹⁸⁶ The RCOG encouraged its members to get involved in the provision of regional anaesthesia and analgesia in hospital maternity units.⁹⁸⁷ At the same time the CMB, reacting to the strict limitations placed on the provision of analgesia by hospital midwives by the implementation of the Aitken report's recommendations, sought new ways to involve hospital midwives in this field. For these reasons, the ad hoc committee's discussions of epidural analgesia focused on the question of whether midwives could safely be permitted to 'top up' epidurals inserted by anaesthetists or obstetricians.⁹⁸⁸

Published in 1958, the Aitken report had concluded that midwives working in hospitals could not administer any treatment, even those drugs approved by the CMB for use by unsupervised midwives, without the express permission and direct supervision of a medical practitioner.⁹⁸⁹ The CMB and the MoH / DHSS initially took no action, but in January 1970 the DHSS Gillie report repeated the Aitken report's conclusion, and called for immediate action on

⁹⁸⁵ In the early 1970s the RCOG's official journal, the *Journal of Obstetrics and Gynaecology of the British Empire*, published a number of papers describing the use of regional anaesthetic and analgesic techniques by obstetricians. See, for example, McNie TM, Dudley AG, Markham SM. (1971) Spinal anaesthesia by the obstetrician. *Journal of Obstetrics and Gynaecology of the British Empire* 78: 830-833; Cooper K, Vella P, Browning D. (1972) Lumbar spinal analgesia given by obstetricians. *Journal of Obstetrics and Gynaecology of the British Commonwealth* 79: 144-148; Moir DD, Victor-Rodriguez L, Willocks J. (1972) Epidural analgesia during labour in patients with pre-eclampsia. *Journal of Obstetrics and Gynaecology of the British Commonwealth* 79: 465-469.

⁹⁸⁶ In June 1971 the RCOG held a scientific meeting on 'regional analgesia in obstetrics', which addressed the use of regional analgesia by obstetricians. See 'Scientific meeting. Programme. Regional analgesia in obstetrics', 11 Jun 1971, RCOG E 1/2.

⁹⁸⁷ See, for example, 'Meeting of the ad hoc committee on the relief of pain in labour', 11 Mar 1971, RCOG T17.

⁹⁸⁸ 'Topping up' was the term applied to further doses of local anaesthetic given after a continuous epidural had been established. For a contemporary clinical description of epidural analgesia, see Doughty, 'Epidural analgesia and pain pathways in labour', in Doughty (1972), pp9-15.

⁹⁸⁹ See also section 4.2.

this subject.⁹⁹⁰ Arthure criticised the Gillie report as a further attack on the professional status of midwives: 'this is not just a matter of midwives using drugs, but the whole issue of midwives being trained to accept the responsibility for normal midwifery'.⁹⁹¹ After some hesitation the DHSS accepted the Gillie report's recommendation. In October 1972 it sent a circular to all RHBs, asking them to ensure that their hospital midwives were not administering analgesics or other drugs to mothers on their own responsibility.⁹⁹²

From the late 1960s, the CMB had considered the possibility of midwives becoming involved in some way with epidural analgesia, as a way of maintaining their involvement in hospital birth. In March 1967, for example, it had extended the training syllabus for pupil midwives, to include the theory and practice of regional analgesia.⁹⁹³ Following the publication of the Gillie report, the CMB began to receive letters from consultant obstetricians and anaesthetists, asking whether unsupervised hospital midwives were permitted to 'top up' epidurals which had been inserted by a trained obstetrician or anaesthetist.⁹⁹⁴ This would free the obstetrician or anaesthetist to attend to other deliveries. The OAA also took an interest: Crawford asked for a copy of the CMB's policy on 'topping up', so that the OAA committee could consider the matter when formulating its constitution.⁹⁹⁵

At a meeting in October 1970, the CMB decided that it would approve 'topping up' by unsupervised hospital midwives, provided that the midwife had been thoroughly instructed in the technique, and that the clinician concerned was prepared to take ultimate responsibility for the procedure.⁹⁹⁶ Fenney sent a draft copy of this policy to Crawford, who raised the matter at the first meeting of the OAA committee.⁹⁹⁷ In his reply Crawford reported that the OAA committee approved of the CMB's decision, but asked for the wording of the policy to be

⁹⁹⁰ SMNPAC. (1970) *Report of the joint sub-committee on measures for controlling drugs on the wards (Gillie report)*. London: DHSS, 'Summary' para 15.

⁹⁹¹ Arthure to Barnes, 9 Jun 1971, RCOG C6/1.

⁹⁹² A copy of this circular is held in the RCOG archive. See 'DHSS circular. Use of drugs by midwives in hospital', 3 Oct 1972, RCOG C6/3.

⁹⁹³ CMB minutes, 2 Mar 1967, in CMB minute book 1961-73, TNA DV 1/20.

⁹⁹⁴ See, for example, MR Fell, consultant obstetrician, Salisbury General Infirmary, to Fenney, 7 Aug 1970, TNA DV 11/324.

⁹⁹⁵ Crawford's request was outlined in Miss Snelling, CMB, to Fenney, 28 Sept 1970, TNA DV 11/324.

⁹⁹⁶ CMB minutes, 1 Oct 1970, in CMB minute book 1961-73, TNA DV 1/20.

⁹⁹⁷ See Crawford's comments in 'Minutes of the first business meeting', 8 Oct 1970, OAA archive.

clarified, to ensure that a midwife was not left to 'top up' an epidural until the obstetrician or anaesthetists involved was certain that it was working correctly.⁹⁹⁸ The ad hoc committee also took this view when they raised the question of 'topping up' at their second meeting in March 1971.⁹⁹⁹ Doughty in particular expressed enthusiasm for this idea. He drew up a 16-page instruction booklet on 'topping up' for midwives, based on the protocol he had developed at Kingston.¹⁰⁰⁰

Though the CMB, the OAA and the ad hoc committee all broadly supported the involvement of midwives in 'topping up' epidurals, each found particular drawbacks to the idea in practice. At a meeting of the ad hoc committee in February 1972, Doughty pointed out the problems that epidural analgesia could cause for medical education, both to pupil midwives and medical students, by reducing the number of normal deliveries at which they could assist.¹⁰⁰¹ A further challenge came in October 1972, when the DHSS chief nursing officer suggested that specially trained nurses, rather than midwives, should take over the role of giving and maintaining pain relief in hospital maternity units.¹⁰⁰² Meanwhile, the manufacturers of inhalational analgesics, the mainstay of midwife-administered pain relief in childbirth for several decades, began to express concern at the rising popularity of epidural analgesia. In January 1974 BOC prepared a brief on 'the pros and cons' of epidural analgesia, and sent it to the CMB for their comments.¹⁰⁰³ In this document BOC argued that Entonox was the cheapest, safest and most effective form of obstetric analgesia, and suggested that the popularity of epidural analgesia amongst anaesthetists was based on less than honourable motives:

⁹⁹⁸ Crawford to Fenney, 21 Sept 1971, TNA DV 11/324.

⁹⁹⁹ 'Meeting of the ad hoc committee on the relief of pain in labour', 11 Mar 1971, RCOG T17; Barnes to Fenney, 21 Sept 1971, TNA DV 11/324.

¹⁰⁰⁰ Doughty's booklet was discussed at a meeting of the ad hoc committee in September 1972, but was felt to be too detailed for general distribution to midwives. See 'Meeting of the ad hoc committee on the relief of pain in labour', 28 Sept 1972, RCOG T17.

¹⁰⁰¹ Doughty, quoted in 'Meeting of the ad hoc committee on the relief of pain in labour', 10 Feb 1972, RCOG T17.

¹⁰⁰² CMB minutes, 5 Oct 1972, in CMB minute book 1961-73, TNA DV 1/20.

¹⁰⁰³ John Junner, marketing manager, BOC, to Fenney, 28 Jan 1974, enclosing 'Epidural analgesia. A brief on pros and cons', 21 Jan 1974, TNA DV 11/324. I have been unable to locate any comments on or response to on this brief in the CMB archives.

[Epidurals are] the latest fashion, a medical 'glamour puss' to show the public how up to date the hospital is. Younger anaesthetists get honour and glory from above. Since it is a skilled art it makes 'jobs for the boys', the anaesthetist and obstetrician. With private practice patients certainly, and possibly with NHS patients, it is a lucrative business for the anaesthetist. He can set up the block and leave it to the midwife while he attends to other patients... There is almost a case for a question in the House about the waste of NHS money on epidurals when well-run Entonox administrations are so satisfactory.¹⁰⁰⁴

And in October 1975 Peter Bayliss, a London solicitor, warned the CMB that the phrasing of its policy on 'topping up' by midwives could lead to legal action from anaesthetists, mothers or even midwives if the 'topping up' process went wrong.¹⁰⁰⁵ Similar problems faced the OAA committee. Both the Medical Defence Union (MDU) and the Medical Protection Society (MPS) had written to Crawford, urging OAA members to obtain verbal consent before administering epidural analgesia to women in childbirth.¹⁰⁰⁶

Debates over the role of midwives in administering epidural analgesia, and the place of epidural analgesia in obstetrics and midwifery, continued long after the ad hoc committee ceased to meet. In the autumn of 1974, Yellowlees proposed that the DHSS should establish a small internal committee, to consider epidural analgesia in relation to hospital anaesthetic staffing requirements.¹⁰⁰⁷ The RCOG, CMB and FARCS (but not the OAA) were invited to nominate representatives, and Robson prepared a brief for the first meeting of the committee.¹⁰⁰⁸ In this document Robson argued for the expansion of epidural services at a national level, so that all mothers in childbirth would be offered epidural analgesia (and around 60% might, he estimated, choose to receive it). Though 'the ideal situation would be to have a 24 hour service manned by anaesthetists experienced [original emphasis] in the technique', Robson

¹⁰⁰⁴ Ibid.

¹⁰⁰⁵ Peter Bayliss, Hempson's Solicitors, London, to Fenney, 9 Oct 1975, TNA DV 11/324.

¹⁰⁰⁶ I have been unable to locate this correspondence, but Crawford outlined its contents in the course of various OAA meetings. See 'OAA committee meeting minutes', 21 Mar 1974, 19 Sept 1974, OAA archive.

¹⁰⁰⁷ Yellowlees to Clayton, 23 Oct 1974, RCOG C6/2.

¹⁰⁰⁸ Robson, 'Brief on epidural analgesia', Nov 1975, RCOG A4/16/6.

acknowledged that this was not possible at current staffing levels.¹⁰⁰⁹ Instead, he supported the CMB's and RCOG's moves to involve obstetricians (but not midwives) with the provision of a comprehensive hospital-based epidural service. At the meeting, held in November 1975, DHSS officials accepted Robson's argument.¹⁰¹⁰ But in confidential memoranda circulated after the meeting, they agreed that no immediate action was needed on the subject:

It was agreed that the high demand for epidural analgesia was unlikely to continue, was likely to decline and that it would only be available within existing hospital services.¹⁰¹¹

Contrary to the DHSS's opinion, the 'high demand for epidural analgesia' did not decline after 1975, and obstetric anaesthetists continued to portray developments in obstetric anaesthesia and analgesia as a straightforward medical humanitarian response to the high maternal mortality rates demonstrated by the *Reports on Confidential Enquiries*, based on an integrated team of professionals from different but complementary clinical specialities.¹⁰¹² But this section has shown that these developments brought tensions, as professional boundaries shifted within the new, unstable structure of hospitalised maternal care.

Obstetric anaesthetists saw epidural analgesia as a tool for developing and maintaining both a new professional identity and hierarchy associated with the provision of obstetric anaesthesia and analgesia, and public trust in the ability of anaesthetists to reduce maternal mortality and relieve pain. But it was also the site of intense conflicts over the control of obstetric anaesthesia and analgesia. Both obstetricians and midwives sought to retain a role in the provision of pain relief in childbirth by challenging the anaesthetists' claim to specialist authority over this technique. The OAA's emphasis on epidural analgesia was strongly influenced by these challenges: it reflected their desire to stake out and to defend the clinical and intellectual jurisdiction of their new sub-speciality.

¹⁰⁰⁹ Ibid.

¹⁰¹⁰ 'Notes of a meeting on epidural analgesia in obstetrics', 24 Nov 1975, RCOG A4/16/6.

¹⁰¹¹ Kloppe to Dr Brothwood, DHSS, 26 Nov 1975, TNA MH 149/1696.

6.4. Conclusion.

Did the establishment of the OAA in 1969, and the activities of its members in the first six years of its existence, represent an expression of a new professional identity for obstetric anaesthetists in Britain? The analysis presented in this chapter suggests that the answer to this question is a qualified yes. In the first six years of its existence, the OAA came to embody a new identity for anaesthetists involved in the provision of anaesthesia and analgesia to women giving birth in hospitals in England and Wales. Members of the OAA committee built this new professional identity on a series of claims to new knowledge and authority. First, the developing technical and professional authority of anaesthetists as a speciality. Second, the emergence of a distinct form of anaesthetics knowledge and practices adapted to a particular clinical context – hospital birth. Third, the recognition of a distinct group of expert clinicians – obstetric anaesthetists – who could take responsibility for all aspects of anaesthesia and analgesia in hospital maternity units. These themes were united in the OAA's staffing policy, which sought to involve obstetric anaesthetists with the provision of obstetric anaesthesia and analgesia in hospital maternity units at national and local levels.

But this answer must be qualified in four ways. First, the sources used in this chapter have revealed something of the OAA's self-image and the ways in which it was perceived by medical and governmental organisations, but they have not provided any insight into the views of mothers, midwives and other interested groups and individuals. Professionalisation and specialisation are social processes, and in the absence of these crucial perspectives this account of the OAA's early history must be considered provisional. Similarly, though this thesis addresses the history of obstetric anaesthesia and analgesia in England and Wales, there is a clear international dimension to the OAA's activities, one which would repay further study.

Second, the OAA does not appear to have been interested in creating a new 'speciality', in the sense in which that word could be applied to the emergence of anaesthetics in Britain in the first half of the twentieth century. The OAA did not establish academic entry requirements, or

¹⁰¹² On the subsequent history of epidural analgesia in obstetrics in England and Wales, see Cooper & Wilkey in MacLean & Neilson (2002), pp371-380.

enforce a strict internal hierarchy. It did not create a formal teaching programme or a qualification. It did not establish an in-house research journal in this period.¹⁰¹³ Its literature emphasised the non-elite character of its membership: they were ordinary clinicians who saw the OAA as a forum for discussion rather than an elite and exclusive professional college. A comparative prosopographical study of the OAA's membership in this period supports this self-image. A large majority of OAA members were consultant anaesthetists, not concentrated in large metropolitan centres nor exclusively provincial, present in all parts of the country and educated at a wide range of medical schools.

But this lack of interest in creating a new 'speciality' is not surprising. Members of the early OAA were not trying to separate themselves and their practice from anaesthetics as a whole. Rather, they were trying to create a new professional group identity, which may as well be called a 'sub-speciality' as anything else, within the existing speciality of anaesthetics. This new professional identity does not appear to have been exclusive, as the membership overlap with the NATC suggests, and was not separate from the overarching professional identity provided by anaesthesia as a speciality. The OAA was in this sense 'permissive': it offered, rather than enforced, a new dimension to the professional identity of its members. And the internal debate over the place of epidural analgesia in the practice of obstetric anaesthesia shows that the early OAA did not always speak with one voice.

Third, though the OAA constitution asserted the clinical expertise and authority of the obstetric anaesthetist in taking responsibility for all aspects of obstetric anaesthesia and analgesia, the OAA and its members did not immediately come to dominate the provision of obstetric anaesthesia and analgesia. Rather, it became one (junior) partner in a debate that had been going on for several decades, and which involved several large, well-established national medical organisations and government bodies. Members of the OAA committee were able to reframe aspects of this debate, using concerns over NHS staffing and new anaesthetic and analgesic techniques to argue for the growing importance of obstetric anaesthetists. For each of the organisations involved in obstetric anaesthesia and analgesia in the early 1970s, the advent

¹⁰¹³ The OAA began to publish an official journal, the *International Journal of Obstetric Anesthesia* (IJOA), in 1990.

and rising popularity of epidural analgesia had brought both benefits and challenges. In its activities, the DHSS sought to balance what a series of apparently conflicting demands: concerns over inadequate hospital staffing versus continuing limitations on NHS expenditure; the merits of new clinical techniques versus the problem of balancing supply and demand; and calls for official recognition and support from a range of practitioners involved in providing obstetric analgesia.

For the CMB, debates over epidural analgesia shifted concern away from the professional status and independent clinical jurisdiction of domiciliary midwives, and towards that of hospital midwives. 'Topping up' widened the hospital midwife's involvement in pain relief for mothers in childbirth, but it also highlighted the decline of independent domiciliary midwifery and the new status of the midwife as a subordinate member of the hospital hierarchy. For obstetricians and the RCOG, epidural analgesia provided an opportunity to become involved in another aspect of maternal care. In one sense the popularity of epidural analgesia, a technique that all concerned agreed could be safely carried out only in the context of hospital birth, reflected the RCOG's successful campaign for the hospitalisation of British birth. In another sense, it indicated the emergence of another, rival group of consultant clinicians – obstetric anaesthetists – keen to assert their new status and expertise in the field of obstetric anaesthesia and analgesia.

For the OAA, on the other hand, a particular technique – epidural analgesia – came to embody the specialised knowledge and practices employed by anaesthetists working in hospital maternity units, and the need to establish not only a professional identity but also a concrete political position for this new group of practitioners. Indeed, in popular discourse the epidural became a synecdoche for obstetric anaesthesia and analgesia as a whole. But OAA members' views of their role in British birth were repeatedly contested, as revealed in the OAA's internal debates over the necessity and value of epidural analgesia, and its external struggles to negotiate recognition and authority with larger, well-established clinical bodies.

Finally, the appearance of the OAA and the emergence of this new identity did not take place in isolation. These events found their roots in three inter-related narratives that had themselves emerged in the course of the previous half-century. The establishment of anaesthetics as a

clinical speciality made consultant anaesthetists a general presence in NHS hospitals across the country, and the shift from home to hospital birth brought obstetrics into the regular practice of these anaesthetists. Related to this, the *Reports on Confidential Enquiries* published in the late 1960s raised concerns over the safety of obstetric anaesthesia, while continuing to emphasise the overall safety of hospital birth. At the same, time many of the OAA's most active early members – Crawford, Doughty, Moir, Tunstall – were involved both in the development of new obstetric analgesics for use by unsupervised midwives and in the implementation of epidural services in hospital maternity units. It was within this wider context of hospitalisation that the OAA and the obstetric anaesthetist emerged.

Chapter 7. Conclusion.

By the mid-1970s, more than 90% of births in England and Wales took place on the maternity wards of NHS hospitals. Over the previous thirty years a distinct group of clinicians – obstetric anaesthetists – had emerged within the relatively new hospital-based speciality of anaesthesia. This new group of clinicians sought to assert their expertise in the provision of safe, effective obstetric anaesthesia and analgesia to the rising proportion of mothers who gave birth in hospitals. ‘Obstetric anaesthesia’ and ‘obstetric analgesia’ – terms which, in 1945, had referred to a range of skills and techniques shared by several groups of practitioners – were increasingly identified with the practice and practices of hospital-based obstetric anaesthetists.

The two main bodies of literature that address this subject – practitioner-histories of anaesthesia and histories of obstetrics and midwifery – have treated the hospitalisation of birth and the emergence of the obstetric anaesthetist in starkly contrasting ways. The historiographical agenda and rhetoric deployed in both genres reflects the fact that they emerged from highly politicised debates in the 1970s and 1980s over the role of the medical profession in birth. Both bodies of work are shaped by the terms of this debate and both are, in different ways, responses to it.

But the evidence presented in this thesis suggests that the history of obstetric anaesthesia and analgesia in England and Wales in the three decades after the end of the Second World War was neither a straightforward search for new and better techniques for relieving the pain of childbirth nor a covert attempt to subject mothers to medical surveillance. Rather, developments in this period can be understood only in the wider context of the centralisation and hospitalisation of state healthcare in England and Wales under the NHS, reflecting the interaction of three overlapping historical narratives: the post-war movement from home to hospital birth; the development of anaesthesia as a hospital-based, consultant-led clinical speciality; and ongoing disputes over the professional status and role of midwives in British birth.

Several examples from previous chapters illustrate the interrelation and interaction of these narratives. A programme of research and development under the aegis of the CMB continued to

provide new techniques of analgesia for use by unsupervised midwives; but it also provided a focus for anaesthetists with a particular interest in obstetric anaesthesia and analgesia to develop their research interests and their professional identity. The authors of post-war *Reports on Confidential Enquiries* aimed to provide further evidence for the hospitalisation of birth and the importance of maternity care from consultant obstetricians; but they also called on anaesthetists to improve their practice and professional status, and anaesthetists reinterpreted the data contained in the *Reports* to support their own agenda of sub-specialisation. And the foundation of the OAA in 1969 represented the emergence of a new professional identity for obstetric anaesthetists; but the OAA's role in debates over the 'topping up' of epidurals by midwives reflects the continuing, if contested, role of the midwife in hospital birth throughout this period.

Just as the OAA did not appear ex nihilo in 1969, so these three narratives themselves have a history. Chapter 2 traced their development in the first half of the twentieth century. Growing public, official and medical concern over maternal and infant mortality in the decade after the end of the First World War led the new MoH, and particularly MCW, to look for new ways to address this problem. Their response – the DCMMM's investigation of maternal mortality – provided an opportunity for the newly established BCOG to develop and publicise its policy of hospitalising a high proportion of British births. In its subsequent campaigns the BCOG / RCOG deployed the rhetoric of maternal welfare, claiming that the report of the DCMMM provided clear evidence of the safety and effectiveness of specialist care in a hospital setting, particularly in relation to the provision of obstetric anaesthesia and analgesia. The BCOG / RCOG expanded this policy in a series of reports published in the 1930s and 1940s, and it was included, with some official disquiet, in the reorganisation of state healthcare under the NHS in 1948.

For official and voluntary organisations in this period, another way to address the problem of maternal mortality and welfare was to improve the standard of care and treatment provided by unsupervised domiciliary midwives, who attended the majority of births in this period. The Midwives Act 1902 established a regulatory framework in which unsupervised midwives could provide pain relief to women in childbirth. From the 1930s, the CMB and NBTF increasingly came to see domiciliary midwives as an effective way of taking new treatments and techniques

of analgesia to poor mothers. In this way, these organisations aimed to improve both maternal welfare and the status of the midwife as an independent practitioner, a status widely thought to be in decline in this period. But the confused professional and clinical status of midwives under the NHS, and continued debates over the professional jurisdiction and independence of unsupervised midwives, meant that this perceived decline continued to be a subject of official concern long after the foundation of the NHS.

By the mid-twentieth century, these three narratives found expression both in the provision of obstetric anaesthesia and analgesia and, in wider terms, in debates over obstetrics, midwifery, maternal welfare and the hospitalisation of state healthcare. The BCOG / RCOG and, to a lesser degree, the MoH had responded to concerns over maternal mortality by aiming to hospitalise a high proportion of births in England and Wales. Related concerns over the professional status of midwives were met with the idea of improving their status, and the standard of maternity care they could provide, by finding new techniques of obstetric analgesia that could be administered safely and effectively by unsupervised midwives. The first half of the twentieth century was also the period in which anaesthesia emerged as a hospital-based clinical speciality in British medicine, and a number of factors resulted in the appearance of a large number of hospital-based consultant anaesthetists, keen to develop and expand the expertise and authority of their new speciality.

Chapter 3 revealed some of the ways in which the establishment of the NHS transformed the interrelationship of these three narratives. A re-examination of the controversy over the Analgesia in Childbirth Bill, 1949, shows that concerns over state involvement in maternity care, the provision of obstetric analgesia and the status of midwives were quickly integrated into wider debates over the expansion, cost and function of the NHS. For the NBTF, the decade after the end of the Second World War was a period of adaptation to the loss of its direct political influence and the higher degree of state intervention in medical care. Its involvement in the Bill reflects the NBTF's mixed intentions: it sought both to challenge and to make use of the new NHS. The failure of the Bill must be seen in the dual contexts of political and governmental debates over the cost of NHS and the redistribution of financial and administrative control within it.

The Analgesia in Childbirth Bill provides a useful case study of the impact of the NHS on obstetric anaesthesia and analgesia. But the series of official investigations of new analgesics suitable for use by unsupervised midwives, discussed in chapter 4, give a more effective 'long view' of this subject. These investigations reveal the close relationship between technical developments in obstetric analgesia and changing official and medical views on the status of midwives and their role in hospital birth. Early investigations, such as those of Trilene and pethidine, concentrated on the suitability of the technique for unsupervised domiciliary midwives. Later investigations of nitrous oxide / oxygen took a wider view of obstetric analgesia, with less emphasis on assessing the suitability of the technique for particular groups of practitioners. These later trials, particularly the CNOOA, also became a focal point for anaesthetists interested in obstetric anaesthesia and analgesia.

Central governmental interest in new techniques of obstetric analgesia tended to focus on their investigation and approval, with little official concern over monitoring the uptake and use of these techniques once approved. But growing governmental and medical interest in obstetric practice and maternal mortality rates was reflected in the post-war reorganisation of the Confidential Enquiries into Maternal Deaths. In two senses the post-war Confidential Enquiries found their roots in the work of the DCMMM: in the structure and aims of their investigation, and in their emphasis on hospital birth. The *Reports on Confidential Enquiries* were, like the report of the DCMMM, claimed by the MoH and the RCOG as 'empirical' evidence of the safety of hospital birth. In this context, the safety and effectiveness of obstetric anaesthesia was used, as it had been in the report of the DCMMM, as a further argument for the hospitalisation of birth. But chapter 5 showed that anaesthesia was not a passive, objective component of the *Reports*. In their chapters on anaesthesia in the first seven *Reports*, two senior British consultant anaesthetists, Marston and Organe, focused almost exclusively on the practice of consultant anaesthetists, using their analyses to call for the development of more specialised knowledge and practice by their colleagues in this field. In doing so, they reinforced both the RCOG's policy of hospitalising a high proportion of births in England and Wales and the idea that obstetric anaesthesia and analgesia were the proper province of hospital-based obstetric anaesthetists.

The emergence of the obstetric anaesthetist represented both a professional and a technical transformation in the provision of obstetric anaesthesia and analgesia in England and Wales. A comparative prosopography of the OAA and NATC in this period shows that the idea of sub-specialisation within hospital anaesthetics practice was not limited to practitioners involved in obstetric anaesthesia and analgesia, and that consultant anaesthetists were the main constituency for this development. Although they sought to remain within the established speciality of anaesthetics, members of the OAA developed a distinct professional identity for obstetric anaesthetists, one closely related to their status as specialist hospital-based clinicians, and expressed it in three ways. First, an emphasis on improving the safety of obstetric anaesthesia and analgesia, as measured by the maternal mortality rate set out in successive *Reports on Confidential Enquiries*. Second, extending the scope and influence of their practice in hospital maternity units, via the staffing policy set out in the OAA Constitution. Third, a particular interest in new techniques of obstetric anaesthesia and analgesia, most notably epidural analgesia.

This new identity, and its expression in the practice of obstetric anaesthetists, brought together two existing strands in the provision of obstetric anaesthesia and analgesia: pain relief in 'normal' childbirth, which had previously been the responsibility of midwives, obstetricians and GPs; and anaesthesia for surgical obstetric procedures, such as forceps delivery or caesarean section, previously undertaken by anaesthetists, obstetricians and GPs. But these developments brought tensions between the groups of practitioners involved in the provision of hospital maternity care. Several such groups challenged the OAA's new professional identity: obstetricians seeking to maintain a role in the provision of pain relief in childbirth; neonatal paediatricians taking over the anaesthetists' role in resuscitation; the CMB intending to preserve the place of midwives in hospital birth; and DHSS officials attempting to address staff shortages in an increasingly overstretched and overspending NHS. By the mid-1970s, however, the hospitalisation of the overwhelming majority of births in England and Wales, and new regional techniques of anaesthesia and analgesia which could be used to provide both pain relief and surgical anaesthesia, united these strands in the practice of a single group of hospital-based clinicians: obstetric anaesthetists.

In the course of researching and writing this thesis, a number of possible directions for future work in this field have become apparent. This thesis has, for reasons outlined in chapter 1, concentrated on 'obstetric anaesthesia and anaesthesia' and not examined the wider context of 'pain relief in childbirth'. A number of approaches to the pain of childbirth were developed in this period, and a study of (for example) Read's 'natural childbirth' or the 'Lamaze method' might profitably be compared with the official and medical perspectives presented in this thesis.

One major challenge in any study of this type is addressing the experiences of mothers in England and Wales, who were, after all, the focal point for most of the organisations and individuals discussed here. Mothers' perspectives on obstetric anaesthesia and analgesia are almost entirely absent from the literature on the history of obstetric anaesthesia and analgesia – an obviously gendered field. Similarly, the perspectives of midwives, female obstetricians and children remain unexplored, and it seems likely that these perspectives will have to be obtained from a range of other sources. Historians of midwifery have made fairly widespread use of oral history interviews with mothers and midwives, and this thesis provides a national context in which testimony from the large number of women who received obstetric anaesthesia and analgesia in the period after the end of the the Second World War could profitably be placed. Likewise, further investigation of the role of other groups of practitioners – in particular paediatricians and obstetricians – in the events discussed in this thesis will illuminate the professional tensions generated by sub-specialisation in medicine.

Though the aim of this study has been to provide a national, central perspective on the history of this subject, there is also a need for historical studies of obstetric anaesthesia and analgesia in particular local contexts and, more broadly, in an international context. Current restrictions on access to hospital records mean that there are significant problems in carrying out such studies at present, but these problems will decrease as time passes. One informative subject for investigation would be the practices of domiciliary and hospital midwives in this period, tracing the uptake and use of new techniques of analgesia and assessing the impact on their practice of the shift from home to hospital birth. Another area in which local studies could provide useful insight is the development of 'epidural services' by individual anaesthetists (such as Crawford at Birmingham or Doughty at Kingston). Elam's work at Barnet, too, might repay

further study in this direction, as might a comparative study of Scotland. A productive approach might be to examine the local impact of the three narratives identified in this thesis. Existing accounts of these developments by anaesthetists themselves, with their emphasis on technical innovations, will benefit greatly from integration with the perspectives of other participants, and with the new dimensions brought by work on the international context of obstetric anaesthesia and analgesia in this period.

Related to this point, the two decades after the end of this study were the period in which the dominant historiographical perspectives on this subject developed. Though governmental papers relating to this later period are currently closed, work on these sources as they are made available for study will illuminate the social, political, intellectual and cultural factors implicated in the emergence of these perspectives.

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8. Audio-visual resources

‘Professor Robert Macintosh interviewed by James E Eckenhoff’, Wood Library-Museum of Anaesthesia, 1983, VHS, 26min, copy in author’s possession.

‘General anaesthesia for caesarean section’, Eothen Films, 1962, DVD, 22min, copy in author’s possession.

APPENDIX 1: PROSOPOGRAPHY TABLES

OAA 1: Membership

	1969	1970	1974	1975
UK members				
Male	37	51	168	183
Female	3	7	36	45
Unknown	1	1	7	12
Subtotal	41	59	211	240
Overseas members				
Male	0	0	17	17
Female	1	1	4	4
Unknown	0	1	31	50
Subtotal	1	2	52	71
Total	42	61	263	311

NATC 1: Membership

	1965	1966	1969	1970	1971	1972	1973	1974	1975
UK members									
Male	33	71	80	87	92	100	108	113	120
Female	6	13	12	9	10	9	11	12	14
Unknown	1	0	0	1	0	3	2	3	3
Subtotal	40	84	92	96	102	112	121	128	137
Overseas members									
Male	0	0	0	0	0	1	1	0	0
Female	0	0	1	0	0	1	1	1	1
Unknown	0	2	2	4	3	14	2	2	2
Subtotal	0	2	3	4	3	16	4	3	3
Total	40	86	95	100	105	128	125	131	140

OAA 2: Membership turnover

	1969	1970	1974	1975
UK membership	41	59	211	240
Members left since previous list	N/A	2	17	3
New members since previous list	N/A	20	169	32
Members remaining on list	N/A	39	42	208
Overseas membership	1	2	52	71
Members left since previous list	N/A	0	1	1
New members since previous list	N/A	1	51	20
Members remaining on list	N/A	1	1	51
Total membership	42	61	263	311
Members left since previous list	N/A	2	18	4
New members since previous list	N/A	21	220	52
Members remaining on list	N/A	40	43	259

NATC 2: Membership turnover

	1965	1966	1969	1970	1971	1972	1973	1974	1975
UK membership	40	84	92	96	102	112	121	128	137
Members left since previous list	N/A	9	2	11	5	4	2	3	1
New members since previous list	N/A	53	10	15	11	14	11	10	10
Members remaining on list	N/A	31	82	81	91	98	110	118	127
Overseas membership	0	2	3	4	3	16	4	3	3
Members left since previous list	N/A	0	0	1	2	1	12	1	0
New members since previous list	N/A	2	1	2	1	14	0	0	0
Members remaining on list	N/A	0	2	2	2	2	4	3	3
Total membership	40	86	95	100	105	128	125	131	140
Members left since previous list	N/A	9	2	12	7	5	14	4	1
New members since previous list	N/A	55	11	17	12	28	11	10	10
Members remaining on list	N/A	31	84	83	93	100	114	121	130

OAA 3: Membership overlap with NATC

	1969	1970	1974	1975
UK members	41	59	211	240
Former members of NATC	0	0	2	3
Current members of NATC	2	2	8	11
Future members of NATC	0	0	4	1
Overseas members	1	2	52	71
Former members of NATC	0	0	0	0
Current members of NATC	0	0	0	0
Future members of NATC	0	0	0	0
Total	42	61	263	311
Former members of NATC	0	0	2	3
Current members of NATC	2	2	8	11
Future members of NATC	0	0	4	1

NATC 3: Membership overlap with OAA

	1965	1966	1969	1970	1971	1972	1973	1974	1975
UK members	40	84	92	96	102	112	121	128	137
Former members of OAA	N/A	N/A	N/A	0	0	0	0	1	1
Current members of OAA	N/A	N/A	2	2	2	2	2	8	11
Future members of OAA	3	8	6	5	6	8	10	3	3
Overseas members	0	2	3	4	3	16	4	3	3
Former members of OAA	N/A	N/A	N/A	0	0	0	0	0	0
Current members of OAA	N/A	N/A	0	0	0	0	0	0	0
Future members of OAA	0	0	0	0	0	0	0	0	0
Total	40	86	95	100	105	128	125	131	140
Former members of OAA	N/A	N/A	N/A	0	0	0	0	1	1
Current members of OAA	N/A	N/A	2	2	2	2	2	8	11
Future members of OAA	3	8	6	5	6	8	10	3	3

OAA 4: Place of education (UK membership)

	1969	1970	1974	1975
England				
Birmingham	0	0	12	12
Bristol	1	1	2	2
Cambridge	5	6	19	18
Durham	0	1	3	3
Leeds	1	2	4	6
Liverpool	0	0	5	7
London	14	27	70	76
Manchester	1	1	5	5
Oxford	0	0	3	3
Sheffield	1	0	3	5
Total	23	38	126	137
Scotland				
Aberdeen	1	0	8	9
Edinburgh	5	8	16	17
Glasgow	3	3	9	10
St Andrews	1	1	4	6
Total	10	12	37	42
Wales	0	0	9	9
N Ireland	3	4	9	12
Total UK	36	54	181	200
Rep Ireland	2	2	5	6
India	1	1	8	11
South Africa	1	1	4	5
Other	0	0	5	5
Unknown	1	1	8	13
Total	41	59	211	240

NATC 4: Place of education (UK membership)

	1965	1966	1969	1970	1971	1972	1973	1974	1975
England									
Birmingham	3	3	3	3	3	4	6	6	6
Bristol	0	0	1	1	1	2	3	3	3
Cambridge	1	4	4	5	6	8	9	9	11
Durham	0	1	1	1	0	0	0	0	1
Leeds	1	2	3	3	3	3	3	3	4
Liverpool	2	2	2	2	3	3	3	3	3
London	15	41	44	41	41	40	44	49	52
Manchester	3	2	1	1	2	4	4	4	5
Oxford	0	0	0	0	0	0	1	1	1
Sheffield	1	2	2	2	3	3	4	4	4
Total	26	57	61	59	62	67	77	82	90
Scotland									
Aberdeen	0	3	4	3	3	3	3	3	3
Edinburgh	5	7	7	8	11	13	13	13	14
Glasgow	5	8	10	9	11	12	12	13	13
St Andrews	1	2	1	3	3	3	2	2	2
Total	11	20	22	23	28	31	30	31	32
Wales	0	1	1	1	1	1	1	1	1
N Ireland	1	2	3	4	4	4	4	4	4
Total UK	38	80	87	87	95	103	112	118	127
India	0	2	3	5	5	5	5	5	5
South Africa	1	1	1	1	0	0	0	0	0
Other	0	0	0	1	1	1	1	1	1
Unknown	1	1	1	2	1	3	3	4	4
Total	40	84	92	96	102	112	121	128	137

OAA 5: Time since qualification (UK membership)

	1969	1970	1974	1975
0 to 4 years	0	0	5	3
5 to 9 years	2	2	34	30
10 to 14 years	14	13	59	64
15 to 19 years	5	13	36	44
20 to 24 years	8	14	26	36
25 to 29 years	7	10	28	27
30 to 34 years	3	5	8	14
35+ years	1	1	8	9
Unknown	1	1	8	13
Total	41	59	211	240

NATC 5: Time since qualification (UK membership)

	1965	1966	1969	1970	1971	1972	1973	1974	1975
0 to 4 years	1	3	1	0	0	0	0	0	0
5 to 9 years	7	13	8	4	9	6	4	6	8
10 to 14 years	8	18	13	15	16	20	21	19	19
15 to 19 years	9	24	32	29	23	26	29	27	28
20 to 24 years	10	10	16	19	24	27	33	35	34
25 to 29 years	4	13	12	15	12	15	13	17	21
30 to 34 years	0	0	7	10	14	11	12	11	13
35+ years	1	2	2	2	3	4	6	9	10
Unknown	0	1	1	2	1	3	3	4	4
Total	40	84	92	96	102	112	121	128	137

OAA 6: Occupation (UK membership)

	1969	1970	1975	1975
Consultant anaesthetist	37	50	144	159
Junior anaesthetics post	1	2	22	23
Academic anaesthetics post	2	3	9	10
Consultant obstetrician / gynaecologist	0	0	7	8
Junior obstetrics / gynaecology post	0	0	5	7
Academic obstetrics / gynaecology post	0	0	1	1
Consultant paediatrician	0	0	1	1
Junior paediatrics post	0	0	2	2
GP	0	3	5	9
Medical assistant in anaesthetics	0	0	3	3
Medical advisor to manufacturer	0	0	1	1
Unknown	1	1	11	16
Total	41	59	211	240

NATC 6: Occupation (UK membership)

	1965	1966	1969	1970	1971	1972	1973	1974	1975
Consultant anaesthetist	24	52	71	73	80	83	95	100	107
Junior anaesthetics post	11	16	5	4	4	5	4	4	4
Academic anaesthetics post	3	6	6	7	8	10	7	7	9
Consultant neurosurgeon	1	5	7	9	9	11	11	11	11
Junior neurosurgical post	0	2	0	0	0	1	1	2	2
Academic neurosurgical post	0	0	0	1	0	1	1	0	0
Consultant dental anaesthetist	0	0	0	0	0	0	1	1	1
Senior reader in animal anaesthesia	0	1	1	1	1	1	1	1	1
Senior house officer in clinical measurement	0	1	1	0	0	0	0	0	0
Unknown	1	1	1	1	0	0	0	2	2
Total	40	84	92	96	102	112	121	128	137

OAA 7: Postgraduate qualifications (UK membership)

	1969	1970	1974	1975
No DObst, DA or FFARCS	0	1	15	17
DObst	6	8	42	47
DA	26	40	111	122
FFARCS	38	53	177	223
DObst only	0	1	7	9
DA only	0	3	5	7
FFARCS only	12	16	59	66
DObst + DA only	0	0	0	1
DObst + FFARCS only	2	1	12	14
DA + FFARCS only	20	31	83	91
DObst, DA + FFARCS	4	6	23	23
Unknown	1	1	8	13

NATC 7: Postgraduate qualifications (UK membership)

	1965	1966	1969	1970	1971	1972	1973	1974	1975
No DObst, DA or FFARCS	1	9	8	12	13	16	15	16	16
DObst	5	6	6	8	10	10	10	10	11
DA	31	62	67	64	67	68	72	75	78
FFARCS	34	70	82	83	88	93	103	108	117
DObst only	0	2	0	0	0	0	0	0	0
DA only	3	3	1	1	1	1	1	1	1
FFARCS only	4	9	12	14	16	19	25	30	34
DObst + DA only	1	0	0	0	0	0	0	0	0
DObst + FFARCS only	3	1	4	6	7	7	7	7	8
DA + FFARCS only	24	57	66	63	63	64	69	71	78
DObst, DA + FFARCS	1	2	2	2	3	3	3	3	3
Unknown	1	0	0	1	0	2	2	3	3

OAA 8: Place of work (UK members before 1974)

	1969	1970
England and Wales: regional health boards		
1. Newcastle	1	1
2. Leeds	1	1
3. Sheffield	3	2
4. East Anglian	3	4
5. North-West Metropolitan	3	3
6. North-East Metropolitan	0	0
7. South-East Metropolitan	0	0
8. South-West Metropolitan	1	0
9. Oxford	1	2
10. South-Western	2	3
11. Welsh	0	0
12. Birmingham	2	4
13. Manchester	0	0
14. Liverpool	1	0
15. Wessex	0	0
Scotland: regional health boards		
1. Northern	0	0
2. North-Eastern	0	0
3. Eastern	0	2
4. South-Eastern	2	2
5. Western	3	3
Northern Ireland: hospitals authority	4	5
University teaching hospitals		
Birmingham	0	1
Bristol	2	2
Cambridge	0	0
Cardiff	1	1

	1969	1970
Leeds	0	0
Liverpool	0	3
London	8	11
Manchester	0	0
Newcastle	1	1
Oxford	1	1
Sheffield	1	1
Unknown	0	1
Total	41	59

NATC 8: Place of work (UK members before 1974)

	1965	1966	1969	1970	1971	1972	1973
England and Wales: regional health boards							
1. Newcastle	1	2	2	2	2	3	3
2. Leeds	0	2	2	5	4	5	5
3. Sheffield	2	1	1	1	1	2	2
4. East Anglian	0	0	0	0	0	0	0
5. North-West Metropolitan	0	0	0	2	1	2	2
6. North-East Metropolitan	0	1	3	2	3	3	3
7. South-East Metropolitan	0	3	4	2	1	1	2
8. South-West Metropolitan	0	0	0	0	0	0	0
9. Oxford	0	0	0	0	0	0	0
10. South-Western	1	1	4	4	7	7	8
11. Welsh	0	1	1	1	1	2	4
12. Birmingham	5	4	5	5	5	6	10
13. Manchester	3	2	0	0	1	3	3
14. Liverpool	2	3	3	4	4	4	4
15. Wessex	0	1	2	2	2	2	2
Scotland: regional health boards							
1. Northern	0	0	0	0	0	0	0
2. North-Eastern	2	3	2	2	3	3	2
3. Eastern	1	1	1	3	3	3	3
4. South-Eastern	2	2	2	1	4	4	4
5. Western	4	5	7	7	7	9	9
Northern Ireland: hospitals authority	0	0	1	1	1	1	1
University teaching hospitals							
Birmingham	1	1	1	1	1	1	1
Bristol	0	0	0	0	0	0	0
Cambridge	3	4	3	3	3	2	2
Cardiff	1	2	2	1	1	1	1

	1965	1966	1969	1970	1971	1972	1973
Leeds	0	5	5	5	4	6	5
Liverpool	0	0	0	0	0	0	0
London	2	26	26	25	26	26	28
Manchester	5	4	4	4	4	4	4
Newcastle	0	2	3	4	4	4	4
Oxford	1	4	4	4	4	3	4
Sheffield	4	3	3	4	4	4	4
Unknown	0	1	1	1	1	1	1
Total	40	84	92	96	102	112	121

OAA 9: Place of work (UK members from 1974)

	1974	1975
London: teaching hospitals	36	37
England: regional health authorities		
1. Northern	9	10
2. Yorkshire	12	21
3. Trent	6	8
4. East Anglia	7	7
5. North-West Thames	5	5
6. North-East Thames	5	6
7. South-East Thames	7	8
8. South-West Thames	7	6
9. Wessex	8	9
10. Oxford	10	13
11. South-Western	10	10
12. West Midlands	17	18
13. Mersey	9	10
14. North-West	10	14
Channel Islands hospitals	1	1
Welsh Office: department of health	19	20
Scotland: health boards		
1. Argyll and Clyde	0	0
2. Ayrshire and Arran	0	0
3. Borders	0	0
4. Dumfries and Galloway	0	0
5. Fife	2	2
6. Forth Valley	0	0
7. Greater Glasgow	9	9
8. Grampian	3	3
9. Highland	2	2
10. Lanarkshire	0	0

	1974	1975
11. Lothian	5	6
12. Orkney	0	1
13. Shetland	0	0
14. Tayside	3	3
15. Western Isles	0	0
Northern Ireland: health and social services boards		
1. Northern	0	0
2. Eastern	5	7
3. Southern	0	0
4. Western	0	0
Unknown	4	4
Total	211	240

NATC 9: Place of work (UK members from 1974)

	1974	1975
London: teaching hospitals	31	33
England: regional health authorities		
1. Northern	7	6
2. Yorkshire	10	12
3. Trent	9	10
4. East Anglia	4	4
5. North-West Thames	2	3
6. North-East Thames	3	3
7. South-East Thames	2	2
8. South-West Thames	0	0
9. Wessex	2	3
10. Oxford	4	6
11. South-Western	8	8
12. West Midlands	8	8
13. Mersey	4	4
14. North-West	7	8
Welsh Office: department of health	5	5
Scotland: health boards		
1. Argyll and Clyde	0	0
2. Ayrshire and Arran	0	0
3. Borders	0	0
4. Dumfries and Galloway	0	0
5. Fife	0	0
6. Forth Valley	0	0
7. Greater Glasgow	11	11
8. Grampian	2	2
9. Highland	0	0
10. Lanarkshire	0	0
11. Lothian	4	4
12. Orkney	0	0

	1974	1975
13. Shetland	0	0
14. Tayside	3	3
15. Western Isles	0	0
Northern Ireland: health and social services boards		
1. Northern	0	0
2. Eastern	1	1
3. Southern	0	0
4. Western	0	0
Unknown	1	1
Total	128	137

APPENDIX 2: MINISTERS OF HEALTH, CHIEF MEDICAL OFFICERS AND PRESIDENTS OF THE RCOG 1945-1975.

1. Ministers of Health / Secretaries of State for Health and Social Services 1945 – 1975.¹⁰¹⁴

2. Chief Medical Officers 1945 – 1975.¹⁰¹⁵

¹⁰¹⁴ Adapted from Webster (1996), pp775 – 776.

¹⁰¹⁵ Adapted from *ibid.*, p784.

3. Presidents of the Royal College of Obstetricians and Gynaecologists 1945 – 1975.¹⁰¹⁶

¹⁰¹⁶ Adapted from the list of presidents of the RCOG in the catalogue of the RCOG archive, 1989, unpublished.